ATEN Control System

User Manual

www.aten.com

EMC Information

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

CE Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

KCC Statement

유선 제품용 / A 급 기기 (업무용 방송 통신 기기)

이 기기는 업무용 (A 급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며 , 가정 외의 지역에서 사용하는 것을 목적으로 합니다 .

RoHS

This product is RoHS compliant.

Safety

This product has been classified as Information Technology Equipment.

SJ/T 11364-2006

The following contains information that relates to China.

部件名称	有毒有害物质或元素					
	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚
电器部件	●	○	○	○	○	○
机构部件	○	○	○	○	○	○

○: 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T 11363-2006规定的限量要求之下。

●: 表示符合欧盟的豁免条款，但该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

×: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

User Information

Online Registration

Be sure to register your product at our online support center:

International	http://eservice.aten.com

Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-10-5255-0110
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988
United Kingdom	44-8-4481-58923

User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed *as is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.

Package Contents

The VK2100 package consists of:

- 1 VK2100 ATEN Controller
- 1 Rack Mount Kit
- 9 Terminal Blocks
- 1 Power Cord
- 1 Software CD
- 1 User Instructions*

Check to make sure that all the components are present and that nothing got damaged in shipping. If you encounter a problem, contact your dealer.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit, and/or any of the devices connected to it.

***** Features may have been added to the ATEN Control System since this manual was published Please visit our website to download the most up-to-date version.

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About this Manual

This User Manual is provided to help you get the most from your ATEN Control System. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

Chapter 1, Introduction, introduces you to the ATEN Control System. Its purpose, features and benefits are presented, and the VK2100's front and back panel components are described.

Chapter 2, Hardware Setup, provides the necessary steps to setup the VK2100 installation, including how to wire the different types of hardware connections.

Chapter 3, Browser Operation, provides a complete description of the VK2100's Browser Graphical User Interface (GUI) and how to use it to remotely configure parts of the VK2100 installation.

Chapter 4, Software Installation, explains the steps required to download and install the VK6000 software.

Chapter 5, ATEN Configurator (VK6000), provides a complete description of the VK6000 software and how to use it to configure and operate the VK2100.

Chapter 6, ATEN Database Generator, provides a complete description of the Database Generator software and how to use it to configure new devices to add to the VK6000 device library.

Chapter 7, ATEN Control System App, provides a complete description of the iPad app and how to use it to operate devices connected to the VK2100.

An Appendix, provides specifications and other technical information regarding the VK2100.

Conventions

This manual uses the following conventions:

`Monospaced`	Indicates text that you should key in.
[ ]	Indicates keys you should press. For example, [Enter] means to press the **Enter** key. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt].
1.	Numbered lists represent procedures with sequential steps.
♦	Bullet lists provide information, but do not involve sequential steps.
→	Indicates selecting the option (on a menu or dialog box, for example), that comes next. For example, Start → Run means to open the *Start* menu, and then select *Run*.
⚠	Indicates critical information.

Product Information

For information about all ATEN products and how they can help you connect without limits, visit ATEN on the Web or contact an ATEN Authorized Reseller. Visit ATEN on the Web for a list of locations and telephone numbers:

International	http://www.aten.com
North America	http://www.aten-usa.com

Chapter 1
Introduction

Overview

The ATEN Control System, incorporating the VK2100 (ATEN Controller), the VK6000 (ATEN Configurator) and the ATEN Control System App is a standard Ethernet-based management system that connects all hardware devices in a room or large facility to provide centralized control of devices directly and effortlessly via an iPad. The VK2100 works as the main controller that provides great connectivity to all sorts of hardware devices commonly seen in a room. After connecting the hardware, the VK6000 software allows customizable device configuration via creation of a simple system project in 4 easy steps. By connecting to the VK2100 via Ethernet, the ATEN Control System App empowers you with the mobility to control different hardware devices in different rooms whenever and however you like.

The VK2100 can easily deploy into an existing installation and integrate seamlessly with ATEN VanCryst pro-A/V products and a complete line of hardware devices, including A/V equipment, lighting systems, air conditioning, motion sensors, power switches and much more. The VK2100 serves as a centralized platform where hardware devices are converged to be monitored, managed and controlled directly via a tailor-made GUI from an iPad.

The VK6000 features a quick setup that facilitates the configuration of hardware control and device operations in 4 easy steps via an intuitive GUI. Through an Ethernet connection, the ATEN Control System App enables you to import and update viewer profiles from the VK2100 via a point-n-tap user interface. Each viewer profile provides a customized control GUI that grants you quick access to target hardware devices. Use of any profile is protected with password authentication to secure system access.

The ATEN Control System is perfectly applicable in meeting rooms, conference centers, boardrooms, classrooms or any room that requires collaboration of a variety of hardware devices through a streamlined management tool with optimum efficiency and performance.

Expandable and Manageable Device Library

The ATEN Library is comprised of 10,000+ device drivers along with the complete line of ATEN VanCryst product drivers. This extensive portfolio of driver resources is built into the system upon the VK6000 installation which makes hardware installation as easy as plug-n-play. This device database can be expanded by adding new devices to the Database Generator which comes in handy when the system fails to locate a specific driver from the ATEN Library. Furthermore, device management is simplified and centralized using My Library which consolidates device information in an organized list for faster hardware setup in projects. This expandable and manageable device database is beneficial and time-efficient as the scope and size of installations grow.

Simplified Setup via Intuitive GUI

The ATEN Configurator (VK6000 software) offers an intuitive and streamlined GUI to simplify a complicated hardware setup process in 4 easy steps: create project > select device > configure viewer profile > upload profile. Operations for any room can be customized in a profile that includes a programmable GUI designed for each iPad model's screen size, meaning "what you see is what you get". Furthermore, actions and commands that correspond to the control buttons and icons added to the GUI will also be included. All control buttons can then be examined beforehand via Simulator and a test tool to verify how each configuration will respond and appear on the iPad, allowing you to avoid the need for re-configuration after the profile has been imported to the iPad for use. This straightforward and streamlined GUI is helpful in boosting the speed of system setup by cutting out repetitive checks, thereby allowing system administrators to quickly become acclimated with device management.

Facilitation with Multiple Controller/Profile/iPad Control

While plotting your installation, system control can start with one room and scale up to multiple rooms in the same area or across regions. From an iPad, toggling between profiles imported from the controller (VK2100) facilitates system control of different rooms with simple point-n-tap operations. Meanwhile, multiple iPads can be authorized with control over the same room simultaneously, depending on your software license. On the other hand, user access to any profile on the iPad can be restricted with password authentication to enhance system security. This versatile system framework is beneficial as system control can respond promptly and flexibly to any changes made, without suffering from unexpected service interruptions.

Features

VK2100 (Hardware Controller)

- Supports various connection interfaces, including:
  - 6 x Serial port
  - 4 x IR/Serial port
  - 4 x Relay channel
  - 4 x I/O channel
  - 1 x Ethernet port
- 4 x DC output for power supply connections
- 1 x USB port for easy profile upload
- IR Learning function for adding IR device drivers
- Easy system settings via the web GUI
- LED indication for hardware status and active messages
- Rack-mountable

VK6000 (Configurator Software)

- Simple profile setup in 4 easy configuration steps via intuitive GUI
- Customizable GUI design and control operations for the iPad
- Built-in Database Generator for device driver setup and overall device management
- Built-in ATEN Library comprising 10,000+ device drivers and complete ATEN VanCryst product drivers
- Test tool to verify commands in action before uploading the profile to the VK2100
- Simulator to try out and review the customized GUI before uploading the profile to the VK2100
- SSH tool to monitor the input and output signals of the controller

ATEN Control System App

- Controls multiple rooms via multiple profiles imported from the VK2100(s)
- Restricted user access to profiles via password authentication
- Synchronization of system controls amongst multiple iPads

Requirements

The following equipment is required for a installation:

Hardware Devices

A device for each type of hardware connection that will be wired to the VK2100, which can include:

- Bi-directional RS-232/422/485 serial devices
- One-way IR or serial transmitter hardware devices
- Relay hardware devices
- Digital input hardware devices
- Digital output hardware devices
- Ethernet controlled PJLink devices

Cables

- Cat 5e/6 Ethernet cable used to connect the VK2100 to the local area network
- For serial devices with DB9 connectors use standard straight through cables.

Computer & Software

- PC installed with the ATEN Configurator software (VK6000)
- iPad installed with the ATEN Control System App

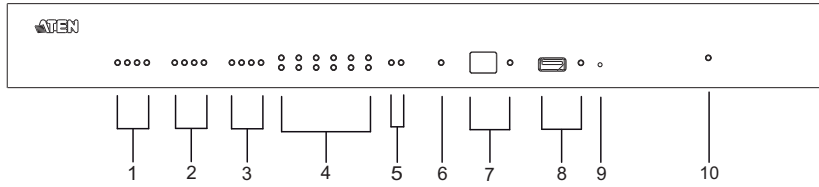
Operating Systems

Supported operating systems for the ATEN Configurator software (VK6000) are shown in the table, below:

OS	Version
Windows	XP, 7, 8, 8.1 and higher

Components

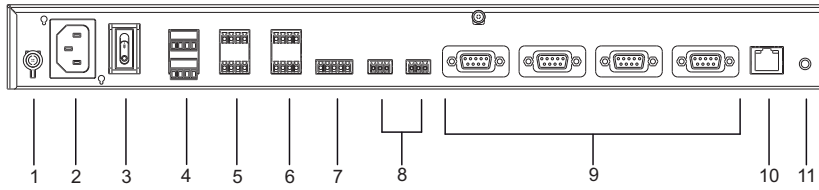
Front View



No.	Component	Description
1	Relay LED	The LED lights green to indicate an active device connection (closed loop).
2	IR/Serial LED	The LED lights green to indicate an active device connection and IR/Serial signals are being transmitted.
3	I/O LED	The LED lights green to indicate an active device connection and I/O signals are being transmitted.
4	Serial LED	The LED (1~6) lights green to indicate serial signals are being transmitted.
5	Ethernet LED	The LEDs provide information about the network connection: ◆ **Link**: The LED blinks green to indicate Ethernet signals are being transmitted. ◆ **ACT**: The LED lights green to indicate 100Mbps transmissions.
6	DC Overload LED	The LED lights orange to indicate DC output exceeds maximum output. **Note:** When the LED lights orange, please unplug any of the connected devices to keep its total output under 24W.
7	IR Receiver / LED	This IR receiver passes the functions of a remote control to the VK2100 in learning mode. The distance between the IR remote and the receiver window should be kept under 10cm with a direct line of sight. ◆ The LED blinks green to indicate the unit is ready to receive signals from an IR remote control.

No.	Component	Description
8	USB Port / LED	This is where a USB device plugs in to upload Viewer files to the VK2100. ◆ The LED blinks green to indicate Viewer files are being uploaded, and lights green to indicate a successful upload of Viewer files. ◆ The LED lights orange to indicate Viewer files failed to upload.
9	Reset	This semi-recessed pushbutton can be pressed to reset the VK2100's network settings.
10	Power LED	Lights green when the unit is turned on.

Rear View



No.	Component	Description
1	Grounding Terminal	The grounding wire attaches here.
2	Power Socket	This is a standard 3-pin AC power socket. The power cord from an AC source plugs in here.
3	Power Switch	This is a standard rocker switch that powers the unit on and off.
4	DC Output Ports	Four outputs provide a total power output of 24W /2A max.
5	Relay Channels	Four channels; normally open, isolated relays with a contact rating of 24VDC, 2A max.
6	IR / Serial Ports	Four IR ports that can also be configured as RS-232 TX ports. pin1: Signal / pin2: Ground.
7	I/O Channels	Four channels that can be configured as digital input or digital output ports. ◆ Digital Input: 0-24VDC programmable input range or contact closure with +12VDC pull-up ◆ Digital Output: 250mA sink from 12VDC Pin1~4: Signal / Pin5: Ground
8	RS-232 Ports	Two RS-232 ports with TX/RX functions supported.
9	RS-232/422/485 Ports	Four ports with supported RS-232/422/485 conversion by pin assignment and RTS/CTS flow control. The RS232, RS422, or RS485 connection is defined by pin. For pin assignments, see page 23.
10	Ethernet Port	This RJ-45 port is used for the network connection. If no IP address is assigned within 30 seconds, the default IP settings will be used: IP: 192.168.0.60 / mask: 255.255.255.0
11	Controller ID Switch	This 16-segment switch is used for controller ID selection.

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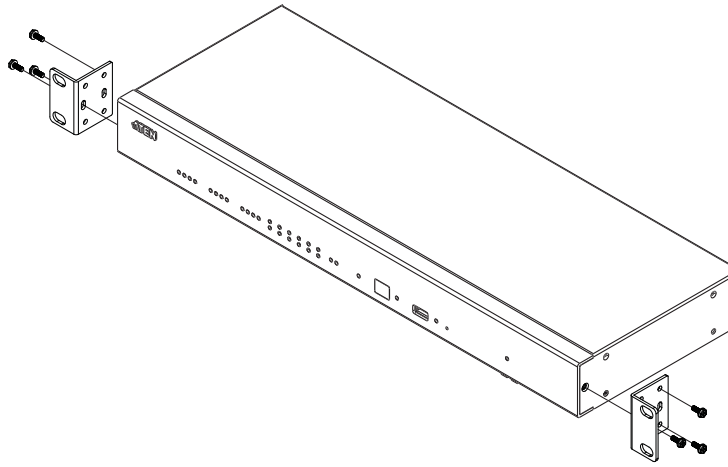
Chapter 2
Hardware Setup

1. Important safety information regarding the placement of this device is provided on page 97. Please review it before proceeding.
2. Make sure that the power to all devices connected to the installation are turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.

Rack Mounting

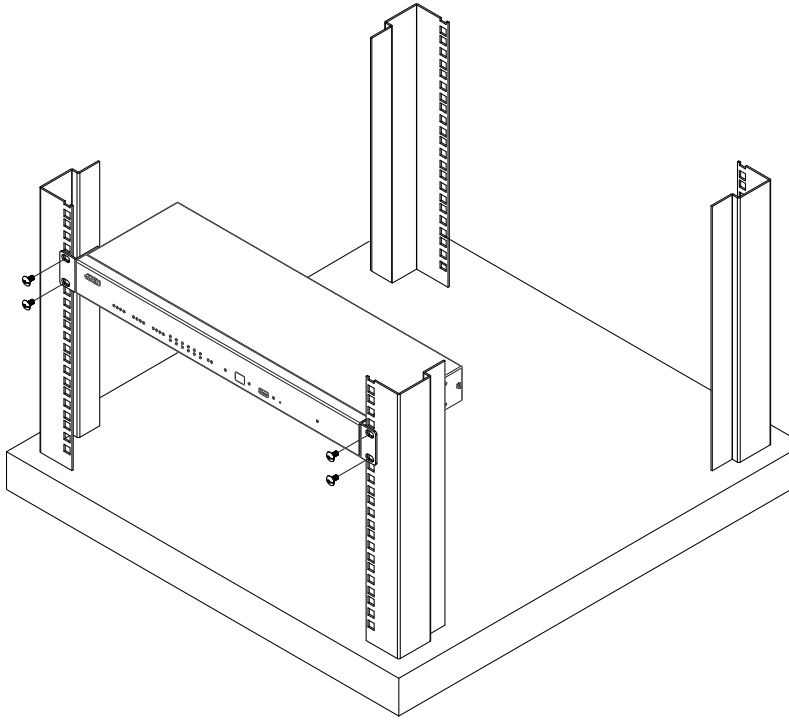
The VK2100 can be mounted in a 19" (1U) system rack. To install the device in a rack, do the following:

1. Use the M3 x 8 Phillips head hex screws supplied with the Rack Mount Kit to screw the rack mounting brackets onto the front of the unit.



(Continues on next page.)

2. Position the unit in the front of the rack and align the holes in the mounting brackets with the holes in the rack.
3. Screw the mounting brackets to the rack.



Connections

Installation of the VK2100 is a matter of connecting the appropriate wires. Refer to the installation diagrams on the pages that follow to setup each device and use the instructions below as a guide (each step provides a corresponding page with diagram), and do the following:

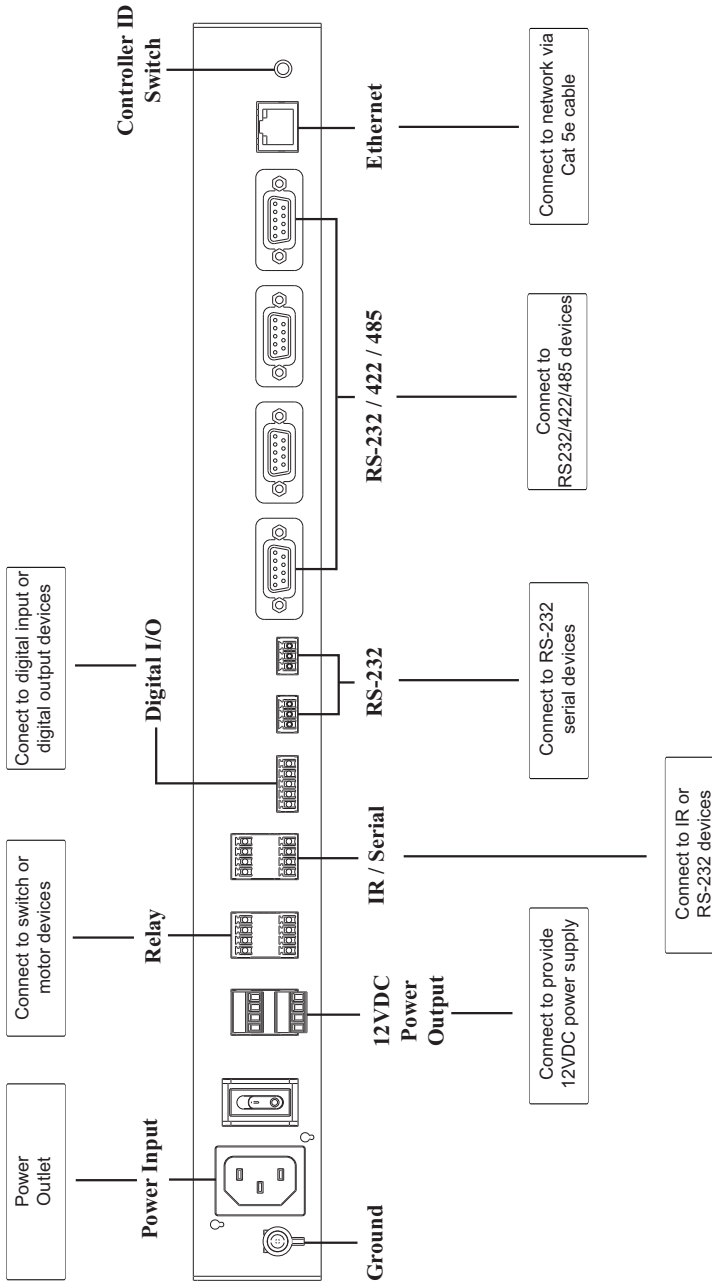
Connect the hardware devices to the VK2100 using these instructions:

1. Use the DC Output terminals to wire 12VDC power connections using the instructions on page 13.
2. Use the Relay terminals to wire relay device connections using the instructions on page 17.
3. Use the IR/Serial (TX) terminals to wire IR or serial device connections using the instructions on page 18.
4. Use the Digital I/O terminals to wire digital Input/Output device connections using the instructions on page 20.
5. Use the RS-232 terminals to wire RS-232 serial device connections using the instructions on page 22.
6. Use the DB-9 ports to wire RS-232/422/485 serial device connections using the instructions on page 23.
7. Use a grounding wire to ground the unit by connecting one end of the wire to the grounding terminal, and the other end of the wire to a suitable grounded object.

   Note: Do not omit this step. Proper grounding helps to prevent damage to the unit from surges or static electricity.

8. Use an Cat 5e/6 cable to connect the VK2100's Ethernet port to the network.
9. Set the Controller ID to the appropriate setting for this unit.
10. Plug the power cord supplied with the package into the VK2100's 3-prong AC socket and then into an AC power source.

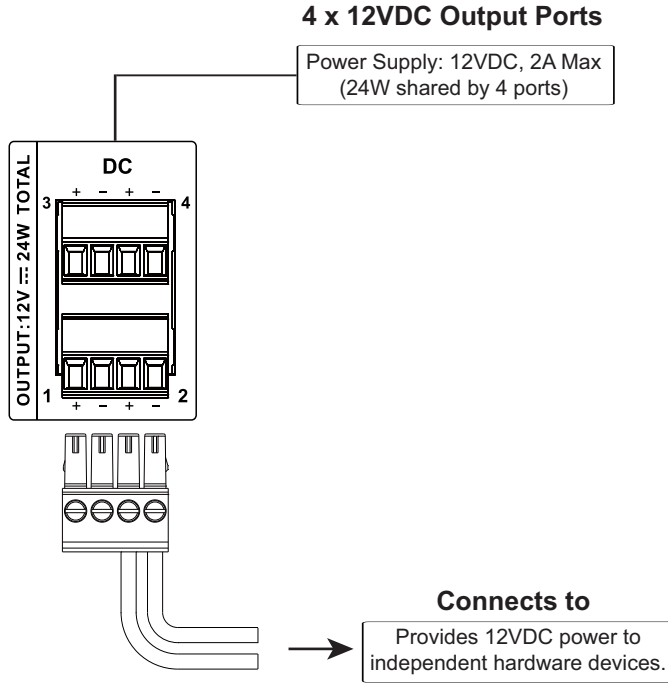
Installation Diagram



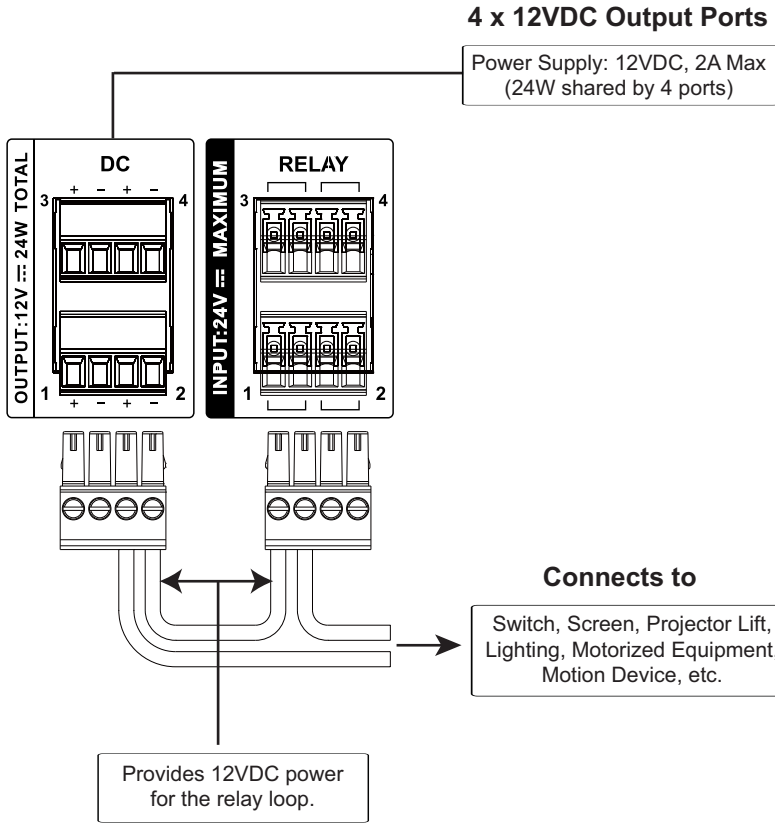
12VDC Power Output

Four ports provide 12VDC of power with a total of 24 watts. The output can power four independent hardware devices, four loops for connected relay devices, or four digital output devices as shown in the diagrams on the next 3 pages. If the combined current of the ports exceeds 2A, the DC Power Overload LED lights orange and the ports are turned off. The power will return to the four ports when the total current drops below 2A. After the overload resets it may take up to 30 seconds for power to return to the ports.

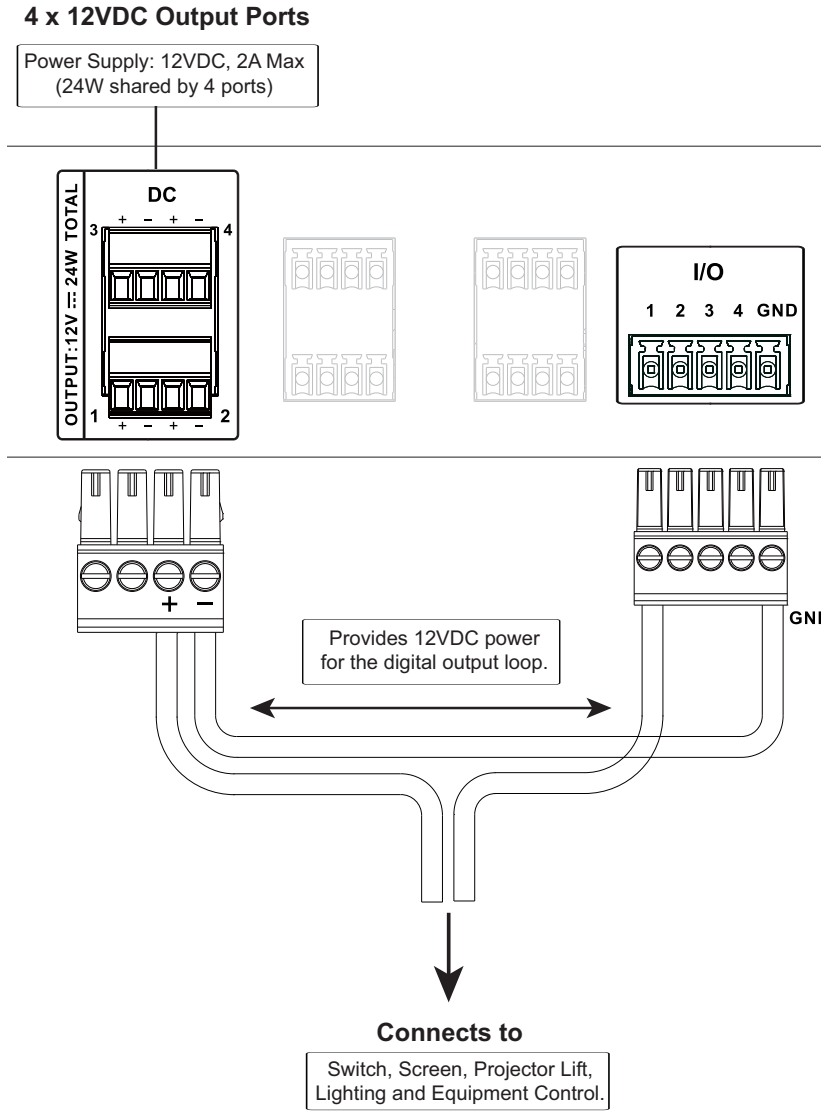
Independent Power Supply



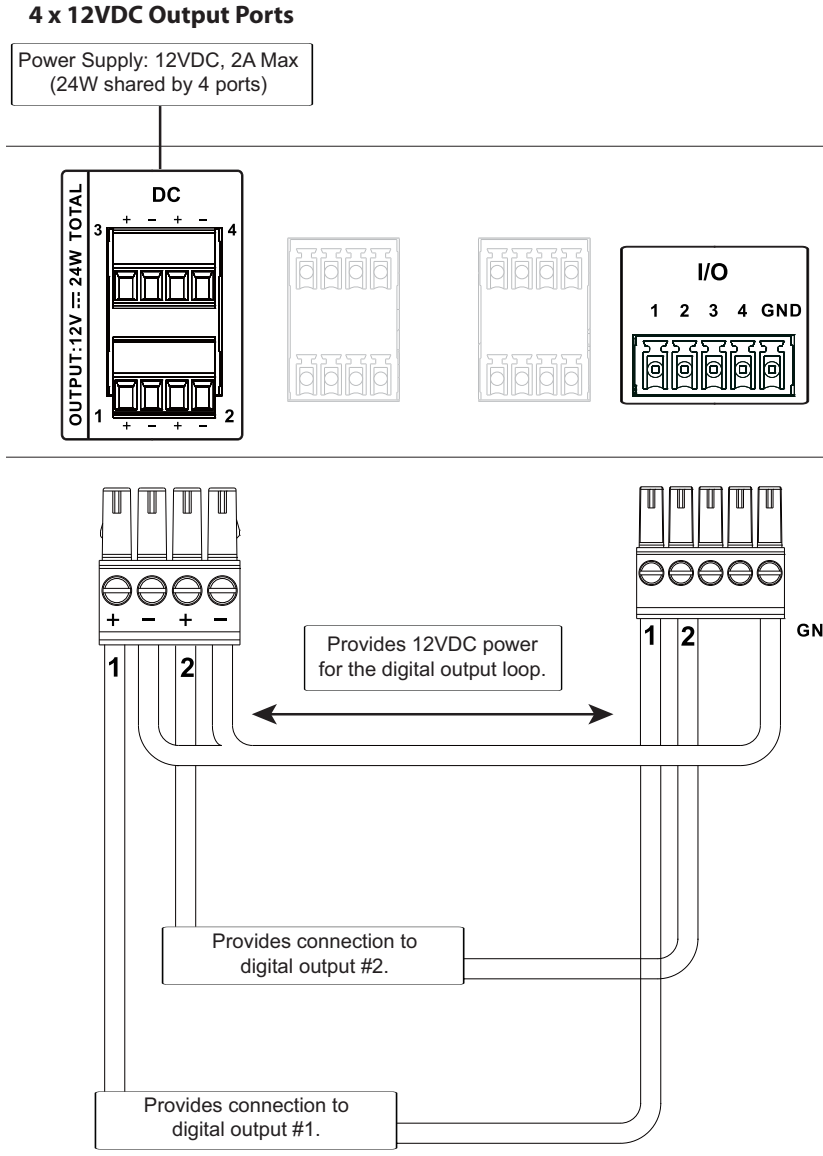
Relay Power Supply



Digital Output Power Supply

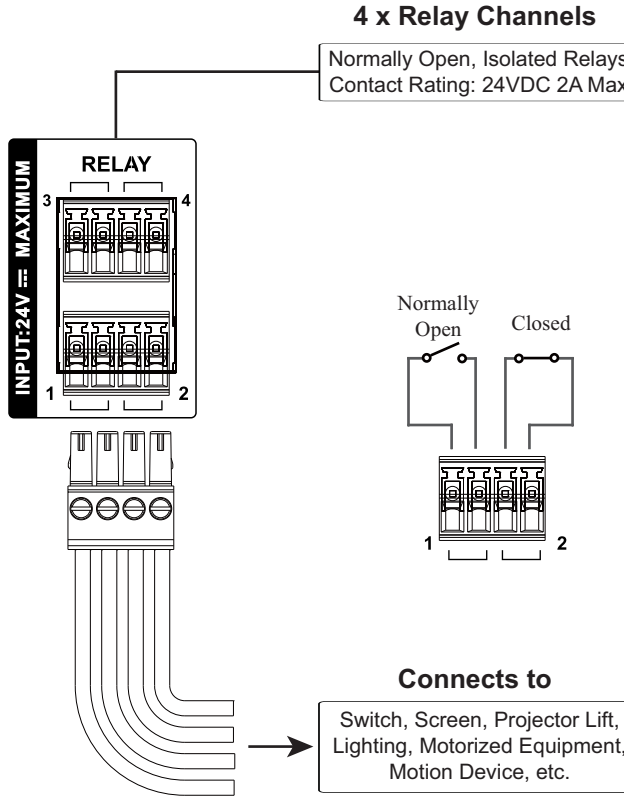


Digital Output Dual Power Supply



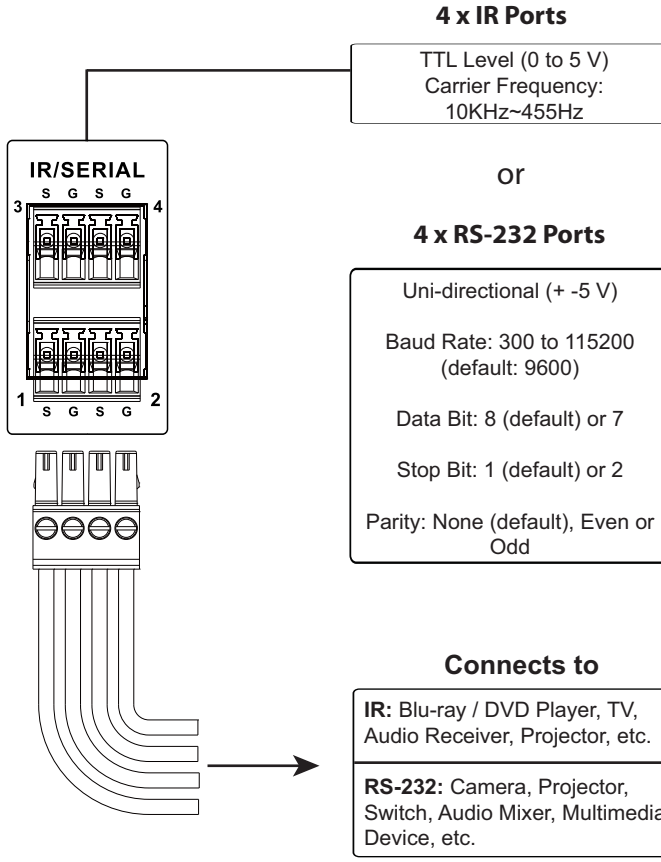
Relay

These four Relay channels provide connections to control hardware devices such as electric screens, projector lifts and other motorized equipment. Each relay is normally open by default.



IR / Serial

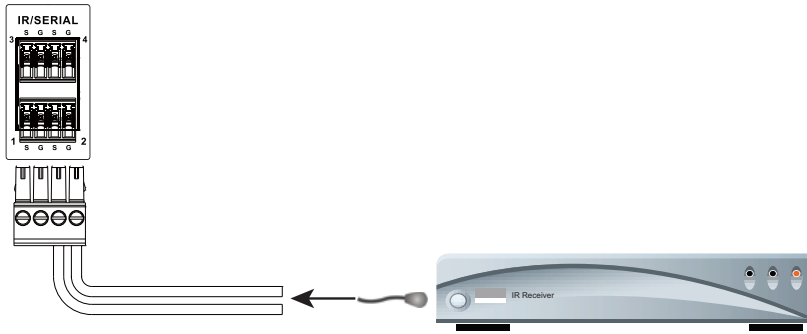
These four ports can be configured to connect IR and RS-232 devices. By default the ports are set to transmit IR signals. Use the ATEN Configurator software to configure the ports for RS-232 signals.



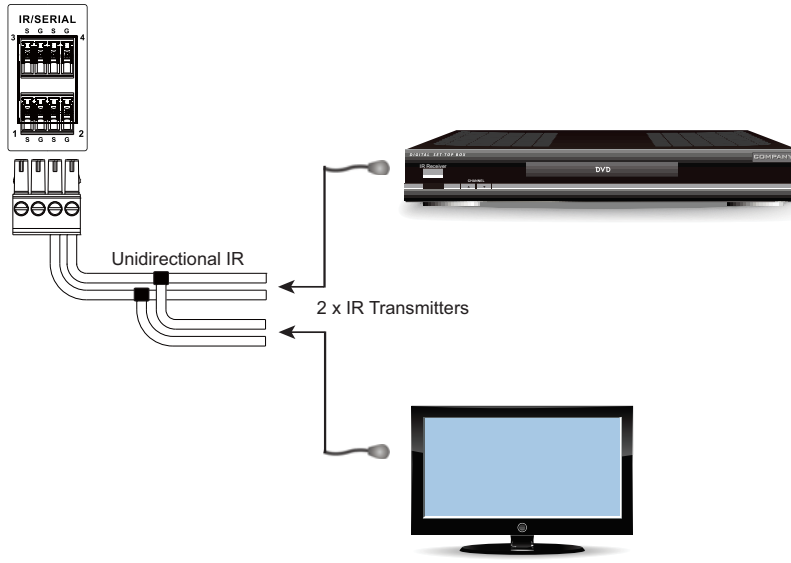
IR Connection: Connect a transmitter cable to the IR and Ground ports on the VK2100 and install the IR transmitter on or near the device's IR receiving port, as shown on page 19.

Serial Connection: Connect the device's receiver (RX) and ground ports to the Serial (TX) and Ground ports on the VK2100. Next configure the same serial port setting on the VK2100 and serial device so that they can communicate.

One IR Transmitter

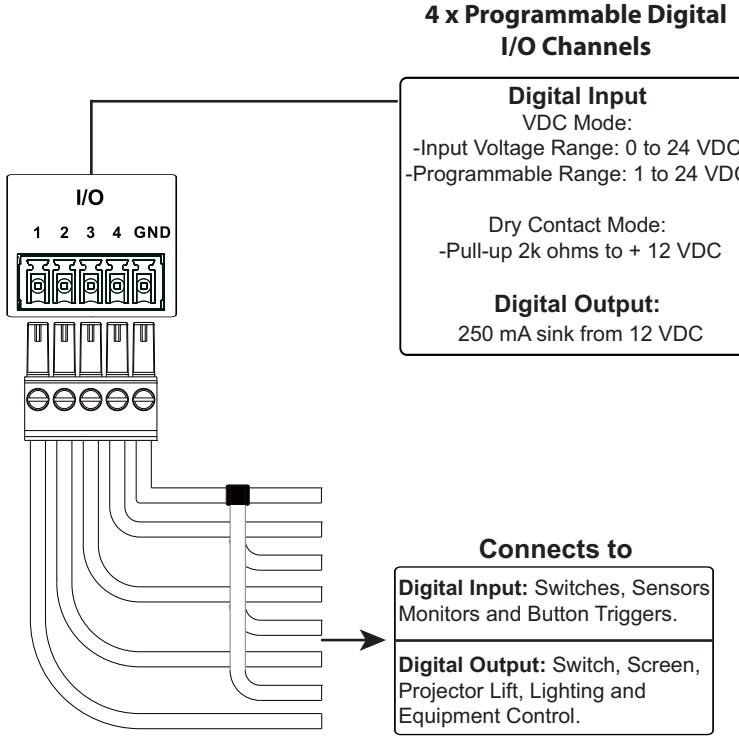


Two IR Transmitters



Digital I/O

These four channels can be used to connect Digital Input or Digital Output hardware devices such as switches, sensors, LEDs and relays. Each channel can be configured as either an Input (VDC), Input (Dry Contact) or Output channel.


4 x Programmable Digital I/O Channels
Digital Input
VDC Mode:
-Input Voltage Range: 0 to 24 VDC
-Programmable Range: 1 to 24 VDC
Dry Contact Mode:
-Pull-up 2k ohms to + 12 VDC
Digital Output:
250 mA sink from 12 VDC
I/O
1 2 3 4 GND
Connects to
Digital Input: Switches, Sensors Monitors and Button Triggers.
Digital Output: Switch, Screen, Projector Lift, Lighting and Equipment Control.

Digital Input (Dry Contact):

Digital inputs are hardware devices (switches, sensors, monitors) with two circuit signals – open and closed. These two signals provide indicators from sensors or switches of an event. An event can be the on/off power, dry contact, sensor or switch status from a device. This information is used to trigger events and functions through the VK2100.

Digital Input (VDC):

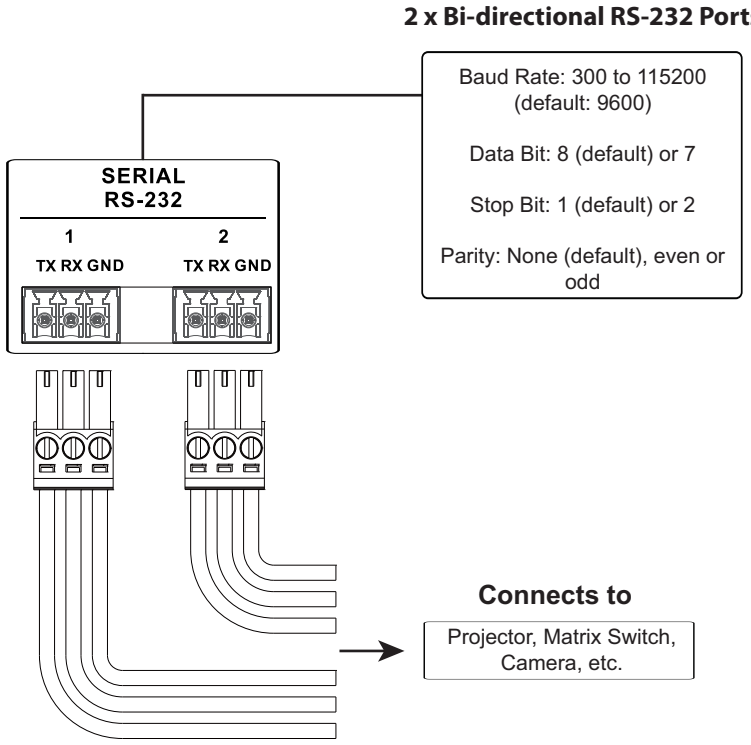
Digital input 12VDC hardware devices (temperature, current and monitor sensors) provide voltage signals between 1 and 24. A digital input port detects if a voltage is above/below a specific threshold (1 to 24). If the voltage coming from a hardware device is higher than the set value, the VK2100 will detect the digital input as high. If the voltage coming from a hardware device

is lower than the set value, the VK2100 will detect the digital input as low. This information is used to trigger events and functions through the VK2100.

Digital Output:
Digital output channels provide non-powered dry contact (open and closed) circuit control of hardware devices such as electric screens, projector lifts and other motorized equipment.

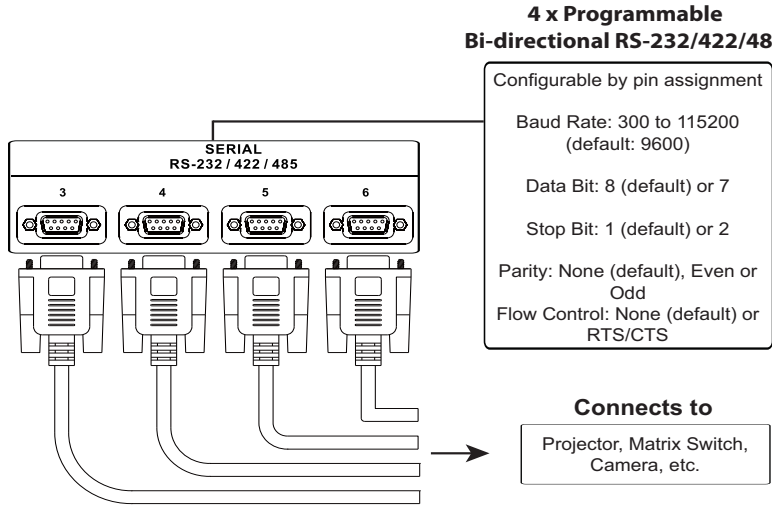
RS-232

These two bi-directional RS-232 ports provide serial control of hardware devices (projectors, matrix switches, etc.) and receive status messages from the connected devices. For bi-directional RS-232 control, the transmit, receive and ground pins must be wired on both the VK2100 and hardware device. Each hardware device requires different wiring. Please consult each hardware device's manual for details.



RS-232 / 422 / 485

These four bi-directional ports provide serial control of hardware devices (projectors, switches, etc.) with programmable pin assignments and receive status messages from the connected devices.



Pin Assignments

RS-232	RS-422	RS-485
Pin2: RX	Pin1: RX-	Pin3: D+
Pin3: TX	Pin2: RX+	Pin4: D-
Pin5: GND	Pin3: TX+	
Pin7: RTS	Pin4: TX-	
Pin8: CTS	Pin5: GND	

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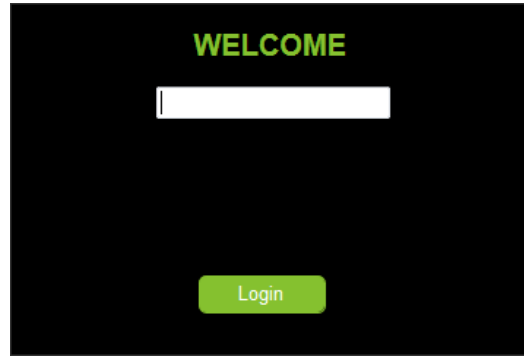
Chapter 3
Browser Operation

Overview

The VK2100 can be configured over a standard TCP/IP connection via its built-in Graphical User Interface (GUI). Because it can be accessed from anywhere over a network or the Internet, operators can easily log in via a web browser. The web interface can be used to upload licenses, set the access key, enable monitors and update the firmware.

Logging In

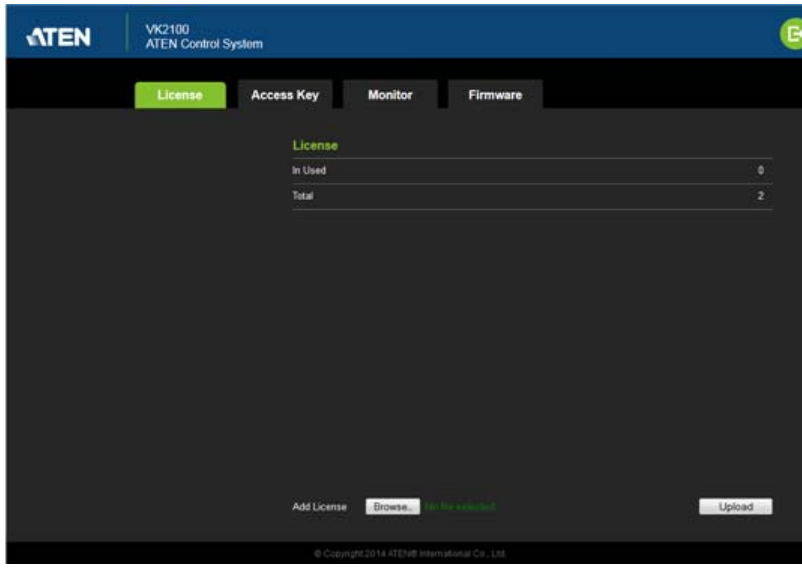
To access the GUI, type the VK2100's IP address into the address bar of any browser. If a Security Alert dialog box appears, accept the certificate – it can be trusted. The Welcome screen appears:



- The default IP address is **http://192.168.0.60**
- The default Password is: **password**
- Enter the password, then click **Login**.

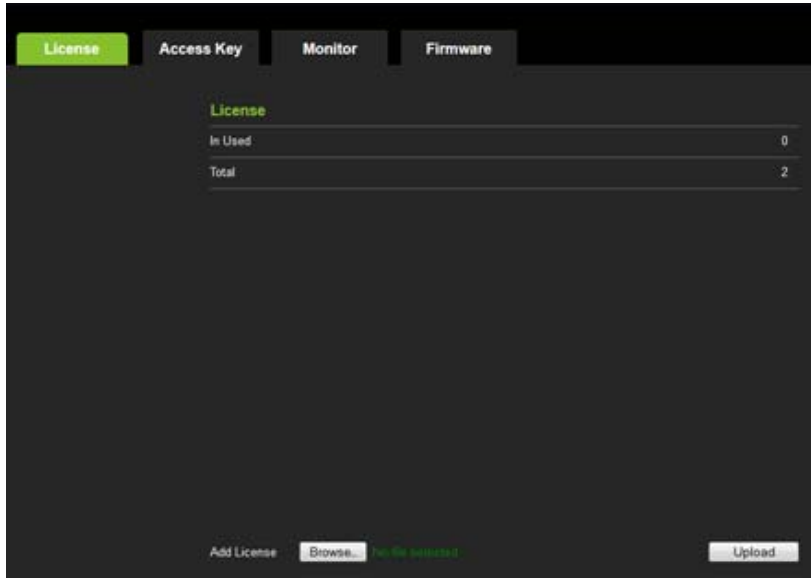
Main Page

The first page opens to the **License** tab. This is where you can select tabs to configure the VK2100. The web page is divided into two parts: the *Interactive Display Panel* which is used to select tabs and configure the options in each section and the *Top Bar* which provides the exit door icon to log out of the web session.



License

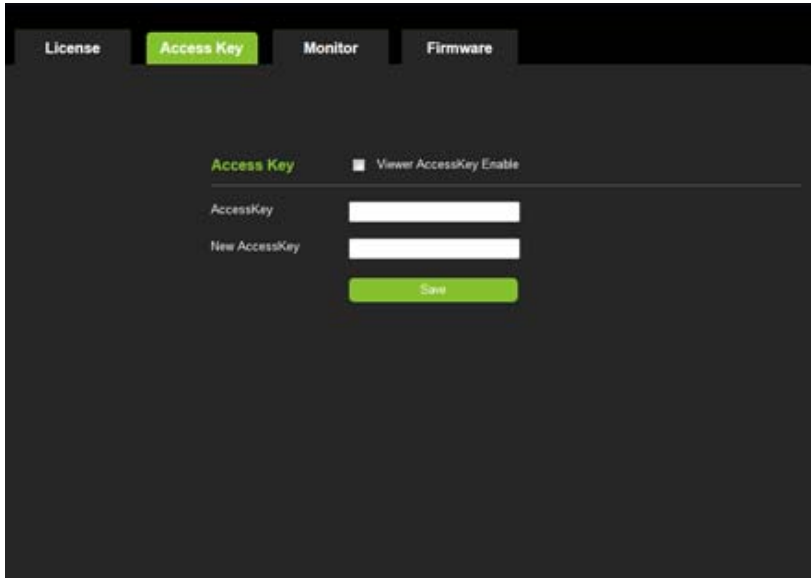
The first page to appear when you log in is the **License** tab. This is where you can upload and view license information.



License	This section lists the total number of licenses being used to access the VK2100 to control hardware devices. **Total** provides the maximum number of licenses you can use and **In Use** provides the current number being used.
Browse	Click the Browse button to locate and add a license file.
Upload	After you browse to locate a license file, click the Upload button to add it to your installation.

Access Key

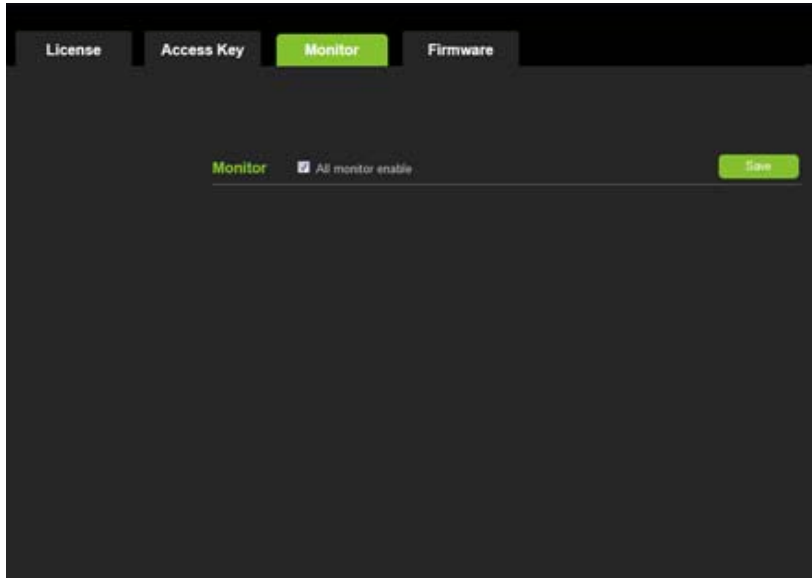
The **Access Key** tab allows you to view, change and enable the password that is used to upload viewer files to the VK2100 and download them to an iPad.



Viewer Access Key Enable	Check this box to require a password when uploading viewers to the VK2100 and downloading viewers to an iPad.
Access Key	Displays the password required to upload/download viewer profiles. You must enter the current access key here in order to create a new access key.
New Access Key	After you have entered the current access key, enter the new access key in this box to change it.
Save	Click to save changes to the access key settings.

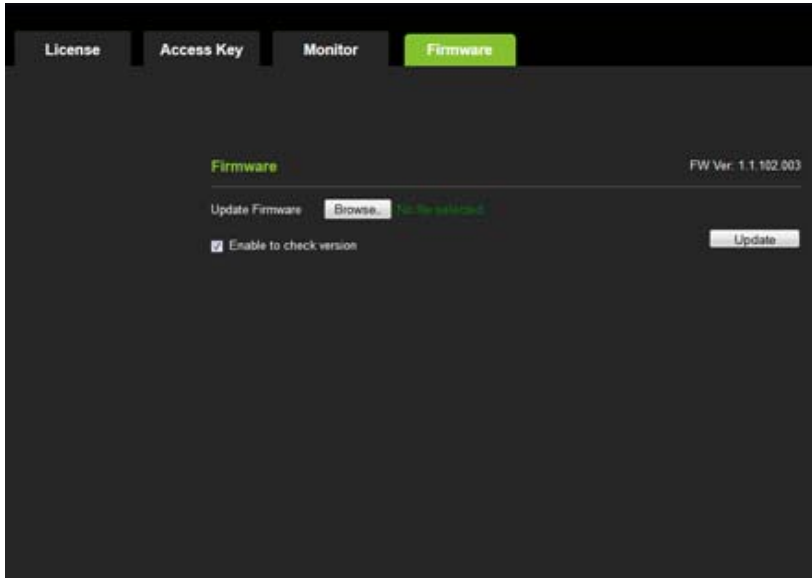
Monitor

The **Monitor** tab allows you to view and enable monitors that have been configured for digital input devices. For more information about creating monitors, see *Advanced Editor*, page 61. Check the box next to the monitor you want to enable or check *Enable All Monitors* and then click **Save**.



Firmware

The **Firmware** tab lets you view the VK2100's firmware version and upgrade it if needed.



To upgrade the VK2100's firmware, do the following:

1. Use the **Browse**... button to locate the firmware upgrade file. Make sure you have the correct file saved on your PC.

- If you enabled Check Firmware Version, the current firmware level is compared with that of the upgrade file. If the current version is equal to or higher than the upgrade version, a popup message appears to inform you of the situation and stops the upgrade procedure.
- If you didn't enable Check Firmware Version, the upgrade file is installed without checking what its level is.
- Once the upgrade completes successfully, the VK2100 starts itself.

2. Click **Update** to start the upgrade.

Chapter 4
Software Installation

Overview

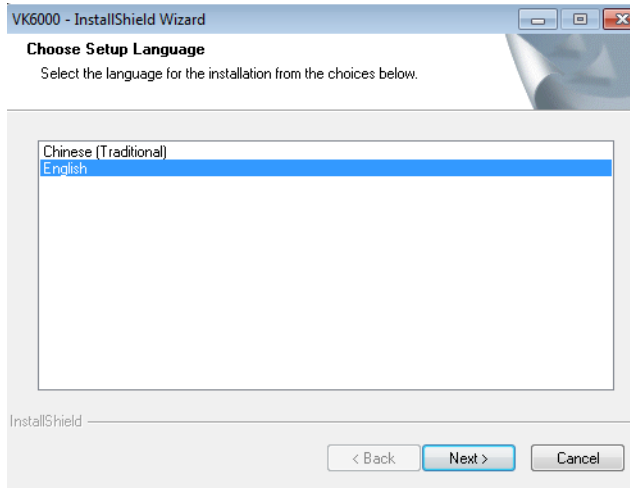
The ATEN Configurator software (VK6000) is a GUI-based management tool that helps you setup and configure the hardware and controls for the ATEN Control System App. To install the ATEN Configurator software, use the CD that was provided with your package and follow the instructions below.

Configurator Software

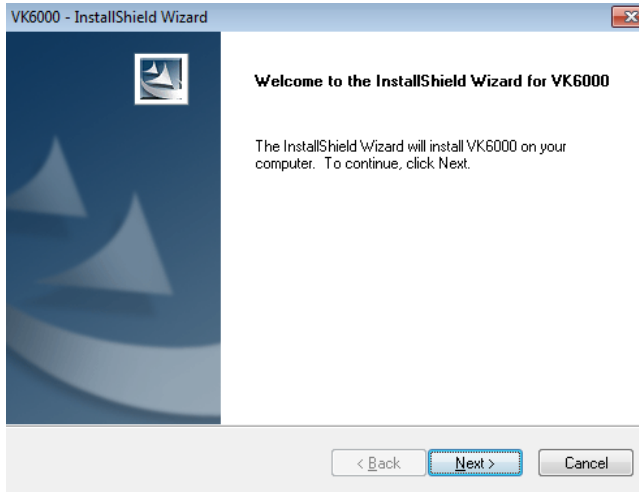
Installation

To install the ATEN Configurator software, do the following:

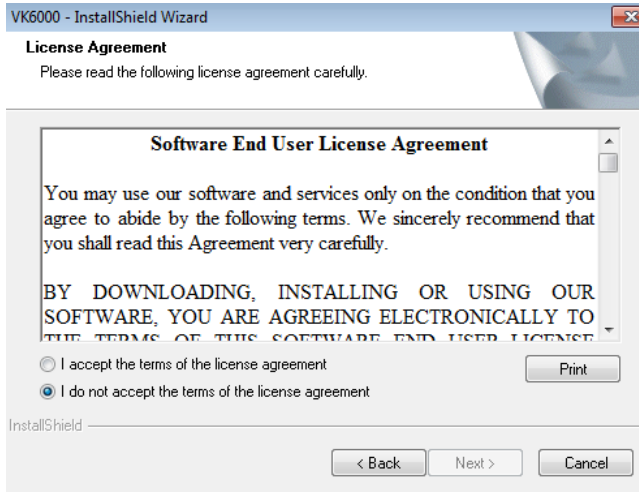
1. Place the CD that came with your package into the CD-ROM drive on your computer.
2. Double click the *ATEN Configurator.x.xxx.exe* file to run the setup and the *Choose Setup Language* screen appears. Select the language and click **Next**.



3. When the *Welcome* screen appears, click **Next**.


VK6000 - InstallShield Wizard
Welcome to the InstallShield Wizard for VK6000
The InstallShield Wizard will install VK6000 on your computer. To continue, click Next.
< Back
Next >
Cancel

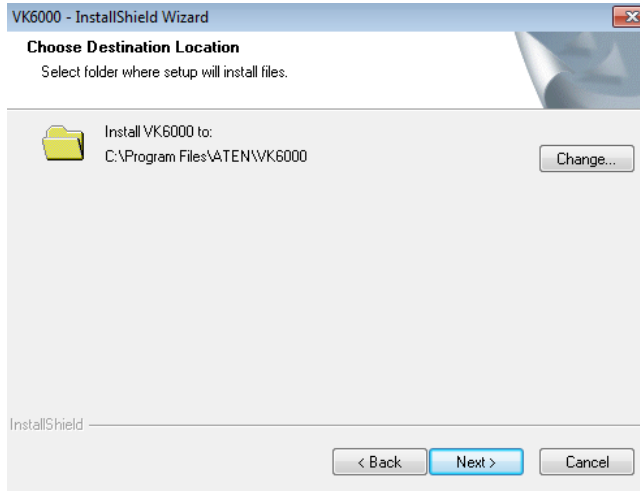
4. The *License Agreement* appears:


VK6000 - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
Software End User License Agreement
You may use our software and services only on the condition that you agree to abide by the following terms. We sincerely recommend that you shall read this Agreement very carefully.
BY DOWNLOADING, INSTALLING OR USING OUR SOFTWARE, YOU ARE AGREEING ELECTRONICALLY TO
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
InstallShield
< Back
Next >
Cancel

If you agree with the License Agreement, select *I accept the terms of the license agreement*, and click **Next**.

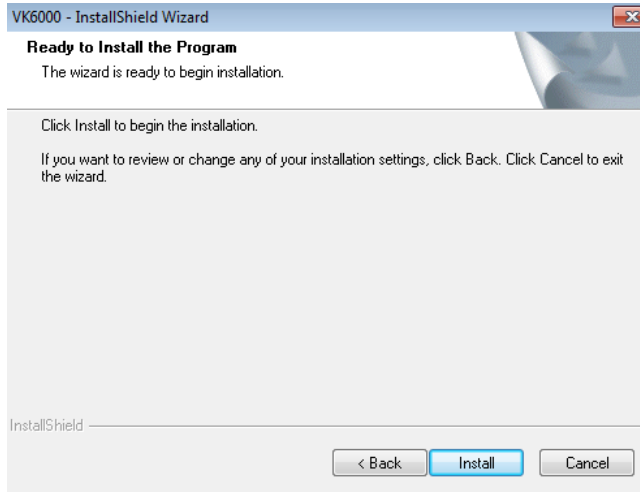
Click **Print** to print the *Software End User License Agreement*.

5. The *Choose Destination Location* screen appears:



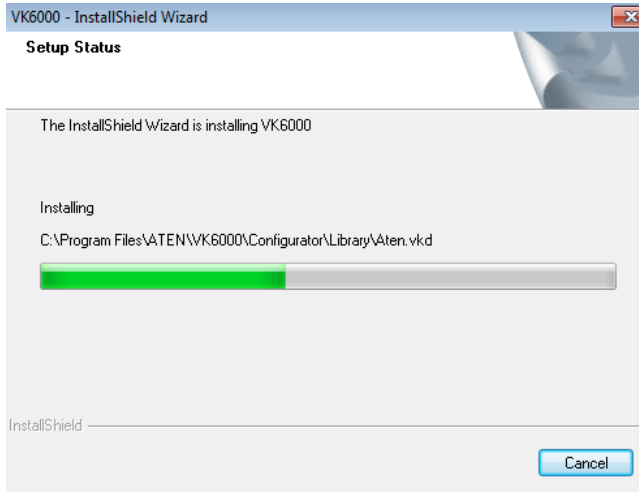
Click **Change** to choose a location where you would like to install the program, or use the default location and click **Next**.

6. The *Ready to Install the Program* screen appears:

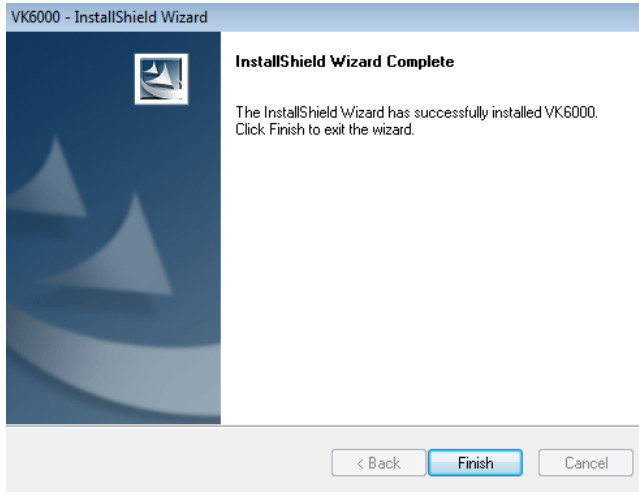

VK6000 - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

Click **Install** to begin the installation.

7. The *Setup Status* screen appears with the progress bar:



8. When the process is done, the *InstallShield Wizard Complete* screen appears:



Click **Finish**.

Chapter 5
ATEN Configurator (VK6000)

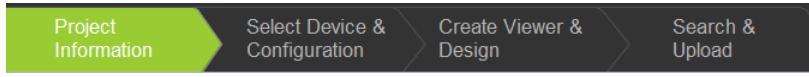
Overview

The ATEN Configurator software provides four easy steps to setup the hardware and create the interface controls for each device. After hardware is connected to the VK2100, use the software to start a project and configure the VK2100 ports, design a user interface that controls the devices from an iPad and upload the information to a controller.

Preface

The ATEN Configurator guides you through the setup in four steps. Use **Project Information** to enter the project details, **Select Device & Configuration** to configure ports according to the connected hardware device, **Create Viewer & Design** to design the user interface and buttons that control each device, and **Search & Upload** to upload the project to the controller.

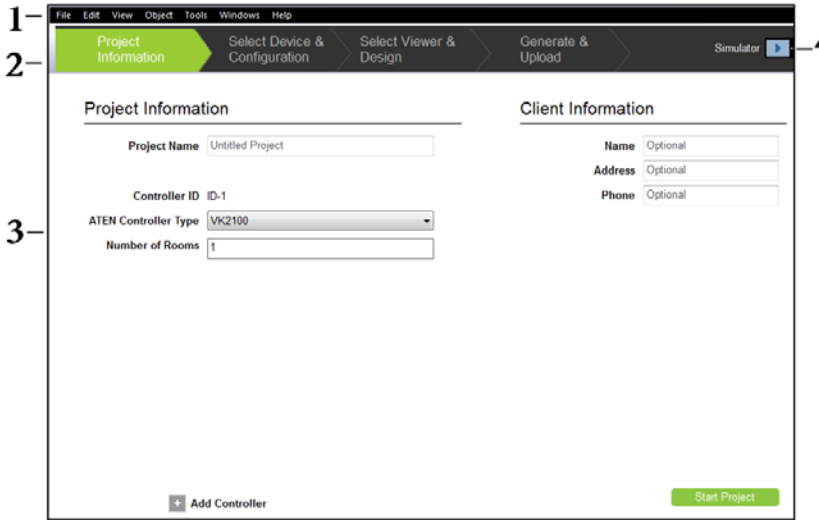
The **Project Bar** in the ATEN Configurator software provides a link to the four steps that are discussed in this chapter.



- Project Information, *page 42*
- Select Device & Configuration, *page 44*
- Create Viewer & Design, *page 49*
- Search & Upload, *page 71*

Main Page

To open the software, double click the Configurator.exe shortcut. The *Project Information* page appears:



1	Menu bar	The menu bar contains categories with options that pertain to different sections of the software. Menu bar items are listed on page 37.
2	Project Bar	The project bar contains four tabs, each tab relates to a step required to configure each project; a step can be selected by clicking on the tab. Each step is discussed in detail, starting on page 42.
3	Interactive Display Panel	This is the main work area. The page that appears here reflects the project bar tab that is selected.
4	Simulator	The simulator button is used to test a viewer after it has been created in *Create Viewer & Design*. The simulator allows you to test the viewer's interface as it would work on an iPad.

Note: To install the ATEN Configurator software, see *Software Installation*, page 31.

Menu Bar

Use the menu bar to select options in each project bar tab. The table below provides a description of each menu item.

Menu	Selection	Description
File	New Project	Select to create a new project.
	Open Project	Select to browse and open a previously saved project.
	Close	Closes the project you are working on and returns to the Project Information tab.
	Save	Select to save changes to the project you are working on.
	Save as	Use this option to save the project and changes as a different name.
	Export Viewer to USB	Exports the viewer(s) and access key to a USB drive. After exporting, the USB drive can be plugged into the VK2100's USB port to upload the viewer files and access key. These files can only be read by the VK2100 and are not project files that can be opened by the VK6000.
	Project Report	Project Report lets you save a PDF file that contains details about the information and configuration settings pertaining to the project.
	Exit	Closes the project and exits the VK6000.

Menu	Selection		Description
Edit	Undo		Select to undo a change in *Create & Design Viewer* when editing the layout of a viewer page.
	Redo		Select to redo a change in *Create & Design Viewer* when editing the layout of a viewer page.
	Cut/Copy/Paste		Select to cut, copy or paste text and images. When used to copy and paste an object in *Create & Design Viewer*, the *General* and *Action* properties are also copied (see page 55).
	Paste Graphic Only		Select to paste an image of a button in *Create & Design Viewer* but not the Action properties.
	Delete		Select to delete highlighted text and images within the *Create & Design Viewer* tab.
	Delete Action Only		Select to delete the Action properties of a button, but not the image.
	Select All / Unselect All		Use these options to Select or Unselect all images when editing a viewer page in the *Create & Design Viewer* tab.
	Preferences	Display Language	Select the language for the ATEN Configurator interface.
		SSH Destination	Choose the location of the executable that runs the SSH Client software. To execute the program, go to the menu bar and select Tools → SSH Client.
		Interface	Checking each box will enable the feature as described: ◆ **Show Welcome Page**: displays the Welcome screen when the ATEN Configurator software opens. ◆ **Show Upload Tip Screen**: displays the Attention screen when you enter the *Search & Upload* page to remind you to set the controller ID before uploading. ◆ **Auto Page Creation**: automatically creates a viewer page in *Create Viewer & Design* for every hardware device added to the *Device Configuration* page. ◆ **Show Password**: displays the characters of a password entered in **Edit Access Key** from the *Search & Upload* page.

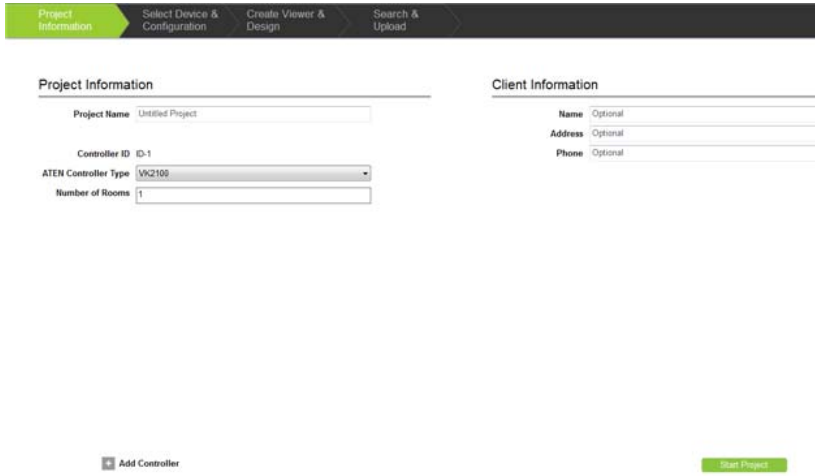
Menu	Selection	Description
View	**The options below are available from *Create Viewer & Design* → *Edit* Viewer pages.**	
	Zoom	Zooms the page in or out to help view the layout and align objects. Options are: 25%, 50%, 75%, 100%, 200% and Fit to window. **Note:** The mouse wheel can also be used to zoom into or out of the page.
	Project Information	Select to go to the *Project Information* tab.
	Device Configuration	Select to go to the *Select Device & Configuration* tab.
	Viewer Design	Select to go to the *Create Viewer & Design* tab.
	Project Upload	Select to go to the *Search & Upload* tab.
	Properties	Use Properties in *Create Viewer & Design* to show/hide the Properties window at the bottom of the screen when editing a viewer page.
	Align to Grid	Select to automatically align objects with the grid when they are moved. This places objects in perfect alignment with grid dots. Use Show Grid to display the grid dots. When Align to Grid is not selected, objects are free to be placed anywhere on the page.
	Show Grid	Select to display grid dots on the page (which can be used to align objects). Use with the Align to Grid option to set objects in place on the grid for perfect alignment.

Menu	Selection		Description
Object	**The options below are available from *Create Viewer & Design → Edit* Viewer pages.**		
	Button		Select to add a button to the viewer page.
	Text		Select to add a text box to the viewer page.
	Image		Select to add an image to the viewer page.
	Scroll View		Select to add a box, then can double click it to add buttons. The box can be used as a scroll window to easily access a scrolled list of buttons.
	Group	Group	Select multiple objects and use **Group** to lock them together. Objects in the group will move together as one.
		Ungroup	Select grouped objects and use **Ungroup** to unlock the group of objects.
	Order	Bring to Front	Moves an object to the top position in a layer of objects.
		Send to Back	Moves an object to the bottom position in a layer of objects.
		Bring Forward	Moves an object up one position in a layer of objects.
		Send Backward	Moves an object down one position in a layer of objects.
	Align	Left	Aligns two or more selected objects to the Left side of the object that is selected last.
		Center	Aligns two or more selected objects to the horizontal position of the object that is selected last.
		Right	Aligns two or more selected objects to the Right side of the object that is selected last.
		Top	Aligns two or more selected objects to the Top side of the object that is selected last.
		Middle	Aligns two or more selected objects to the vertical position of the object that is selected last.
		Bottom	Aligns two or more selected objects to the Bottom side of the object that is selected last.

Menu	Selection	Description
Tools	Database Generator	Opens the Database Generator which is used to manually add hardware devices to the *Device Library*. This is for hardware devices that can not be found in the *ATEN Device Library*.
	Simulator	The simulator button can be used once a viewer has been created in Create Viewer & Design. A simulator window allows you to test the viewer's interface as it would work on an iPad.
	SSH Client	This runs the SSH Client software selected in *Edit → Preferences → SSH Destination*. The SSH Client is used to communicate with the VK2100.
Windows	New Page	Select from *Create Viewer & Design* to add a new viewer page.
Help	About	Provides the firmware version and support information for the Configurator software.

Project Information

The *Project Information* tab is the first step to configure the installation with the Configurator software. Fill in the project information according to its specifications using the table below as a guide.

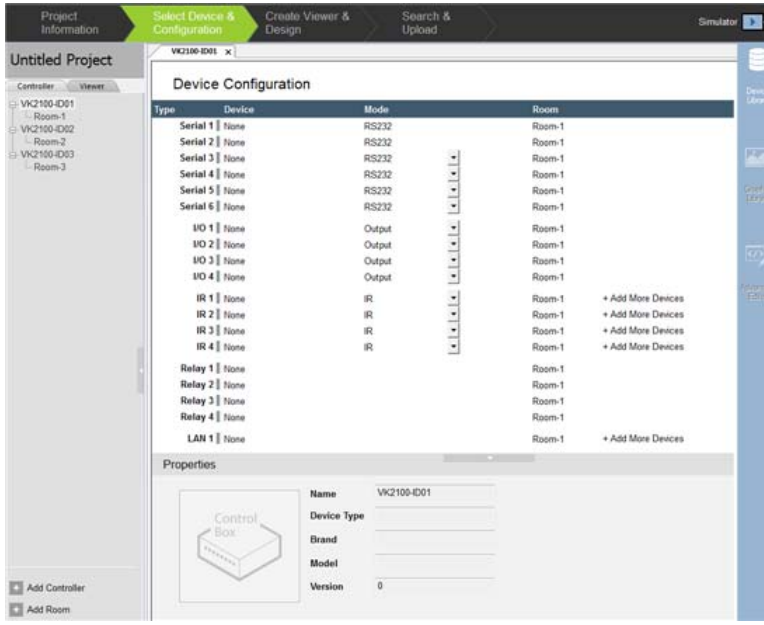


Project Name	Enter a name for the project you are setting up. You can create multiple projects but for most installations only one project is required.
Controller ID	Provides the Controller ID associated with a VK2100. Use this number to set the Controller ID Switch on the rear of the VK2100. This allows you to configure the hardware devices and upload the information to the correct controller by linking the Controller ID in the software to the VK2100 unit.
ATEN Controller Type	Select the model of the ATEN Controller you are installing.
Number of Rooms	Enter the number of rooms that the VK2100 will control. When a viewer (user interface) is created in *Create Viewer & Design,* you need to select a room that is associated with the VK2100 so that the software knows which VK2100 to upload the viewer to.
Name	Enter the name of the client associated with the project.
Address	Enter the address of the client associated with the project.
Phone	Enter the phone number of the client associated with the project.

Add Controller	Click to add controllers* to the project. The number of controllers you add should equal the number of VK2100 devices being installed. A project can have up to 16 controllers. *A controller is the software representation of an actual VK2100 being installed.
Remove Controller	Click to delete a controller from the current project.
Start Project	Click Start Project to begin configuring the hardware devices – the *Select Device & Configuration* tab opens.

Select Device & Configuration

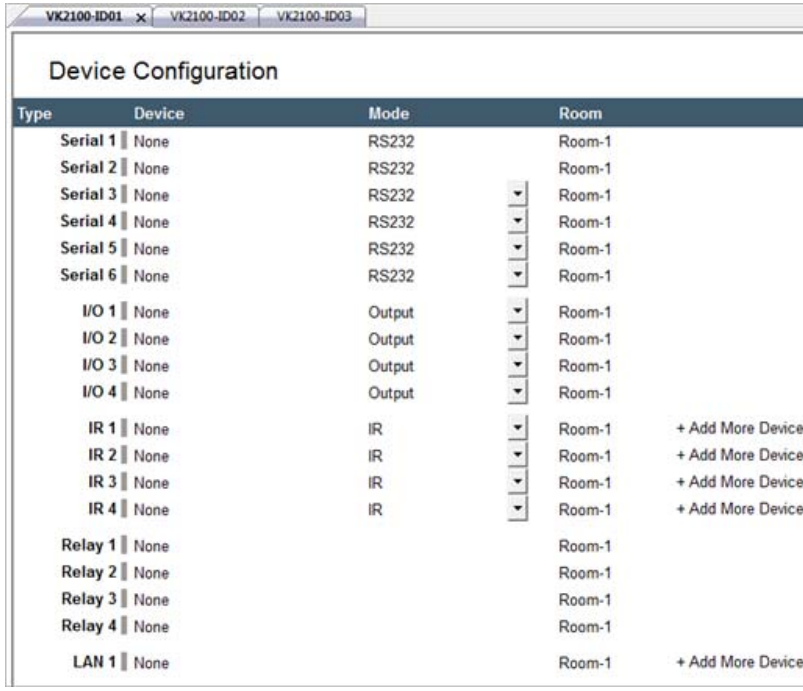
The *Select Device & Configuration* tab is used to configure the VK2100 ports according to the connected hardware device. To add a device, select a port from the *Device Configuration* list and use the **Device Library** on the right sidebar to find the device in the database. If a device is not in the Device Library, from the menu bar select *Tools* → *Database Generator* to add a custom device.



Device Configuration	Device Configuration lists the hardware ports on the rear of the VK2100. Selecting a Controller or Room on the left sidebar displays the ports. Each port needs to be configured for the hardware device connected to it.
Left Sidebar	The left sidebar lists the controllers and rooms. Use the sidebar to add controllers and rooms to controllers. As devices are configured for the ports, they appear listed below a room on the left sidebar.
Right Sidebar	The right sidebar provides the Device Library option. This contains a large database of hardware devices that can be added to configure the VK2100 ports.
Device Library	The Device Library is an extensive database of hardware devices that can be selected to configure the VK2100 ports.
Properties	Properties displays information about the selected controller, port or device.

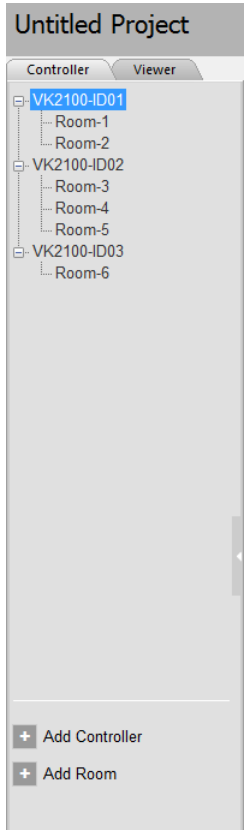
Device Configuration

The *Device Configuration* page lists the VK2100 ports by type. Selecting a controller on the left sidebar opens a tab with the ports. Click a port to view its **Properties**. Double click a port to open the **Device Library** and add a device from the database to configure the port.


VK2100-ID01
VK2100-ID02
VK2100-ID03
Device Configuration
Type
Device
Mode
Room
Serial 1 None RS232 Room-1
Serial 2 None RS232 Room-1
Serial 3 None RS232 Room-1
Serial 4 None RS232 Room-1
Serial 5 None RS232 Room-1
Serial 6 None RS232 Room-1
I/O 1 None Output Room-1
I/O 2 None Output Room-1
I/O 3 None Output Room-1
I/O 4 None Output Room-1
IR 1 None IR Room-1 + Add More Devices
IR 2 None IR Room-1 + Add More Devices
IR 3 None IR Room-1 + Add More Devices
IR 4 None IR Room-1 + Add More Devices
Relay 1 None Room-1
Relay 2 None Room-1
Relay 3 None Room-1
Relay 4 None Room-1
LAN 1 None Room-1 + Add More Devices

Type	Lists the controller's port number and type.
Device	Shows the device name entered in Properties.
Mode	Shows the mode selected for a port. Click the arrow to select an option: ◆ **Serial**: RS232, RS422, or RS485. ◆ **I/O**: Input (VDC), Input (Dry Contact) or Output. ◆ **IR**: IR or Serial.
Room	Displays the room selected for a device. Available rooms depend on the number of rooms added to the controller. No drop-down menu appears if there is only one room. Each controller must have at least one room.
+ Add More Devices	RS422, RS485, LAN and IR ports can cascade additional devices that are connected to the original unit. RS422 and RS485 ports can connect up to 3 devices, IR ports can connect 1 device, and LAN ports can connect up to 19 devices.

Left Sidebar



Controller

The *Left Sidebar* provides a tree view of the controllers and rooms. Each controller represents a VK2100 and the room(s) it manages. Selecting a controller allows you to configure its ports. When a port is configured with a device, it appears listed under the room.

Each controller must have at least one room. When installing multiple VK2100's in one room, add a room with the same name to each controller.

Each controller name ends with an ID number: VK2100-**ID01**. Use this number to set the **Controller ID Switch** on the rear of the VK2100. This links the controller in the software to the VK2100 unit being installed.

Right click a controller to **Add Room** or **Delete Controller**.

Room

Rooms are associated with a controller so that when a viewer (user interface) is created, it's created with all the hardware controls for a specific room.

Right click a room to **Delete** or **Rename** the room.

Use the buttons at the bottom of the sidebar to A**dd Controller** or **Add Room**.

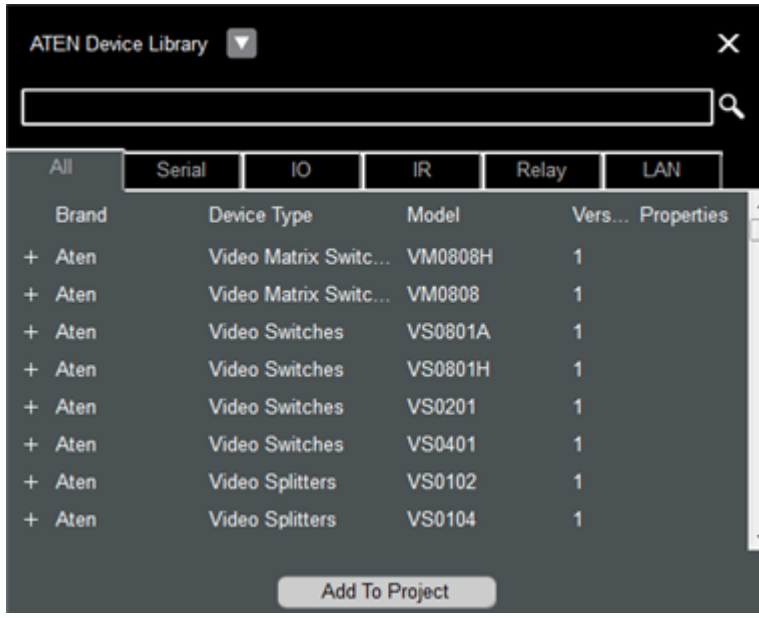
Right Sidebar

The *Right Sidebar* provides the **Device Library**. Use the Device Library to add a device configuration to the VK2100 port according to the connected device. The Device Library provides an extensive database of hardware devices that can be double clicked or drag and dropped into the *Device Configuration* page for easy configuration of the ports. The Device Library is discussed on the next page.

Device Library

The *Device Library* is a database of devices that instantly configures the VK2100 ports. Search the library for the hardware device that is connected to a VK2100 port and add it to configure the port. For devices not in the library, see *ATEN Database Generator*, page 73.

Click **Device Library** on the right sidebar or double click a port from the *Device Configuration* page to open the library.



- Add a device by clicking +, **Add to Project**, or by dragging & dropping.
- To search for a device: type keywords into the box and click .
- Click tabs to filter by type: **All**, **Serial**, **I/O**, **IR**, **Relay** or **LAN**.
- Click headings to sort by **Brand**, **Device Type**, **Model** or **Version**.
- Use the drop-down menu to select:
  - **ATEN Device Library** - ATEN's database of hardware devices.
  - **My Device Library** - Database of hardware added in the Database Generator (see page 73).
  - **Create Device** - Opens the Database Generator to add custom hardware to My Device Library (see page 73).

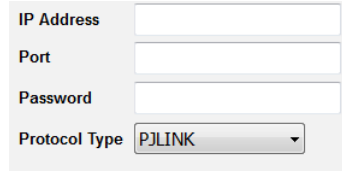
Properties

Properties displays information about the selected port or device.

Name	Displays the name of the device selected.
Device Type	Displays the hardware type: TV, DVD, AUDIO, etc.
Brand	Displays the brand name of the device selected.
Model	Displays the model number of the device selected.
Ver.	Shows the version of the device selected.
Serial Ports	Displays Baud Rate, Databit, Stopbit, Parity, and Flow Control settings. Configure according to the device connected to the port.
Add Custom	Enter a name and click to save.

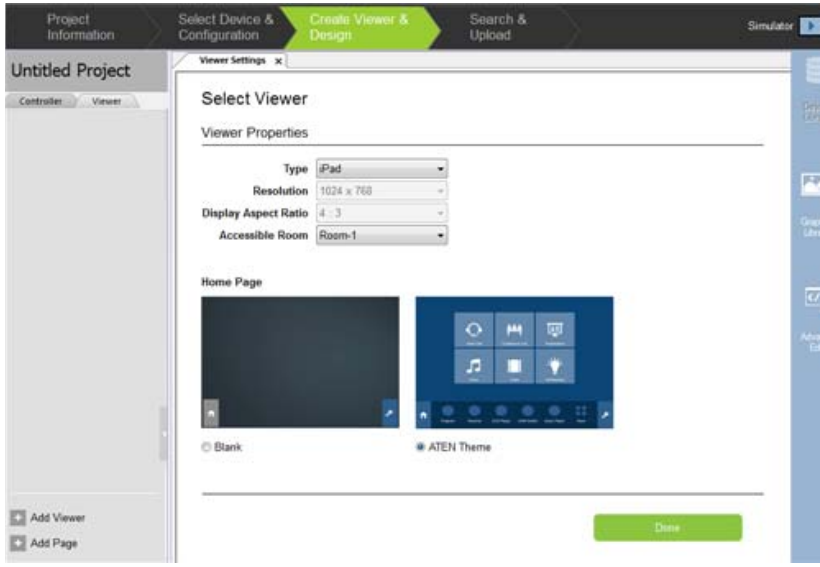
- **Lower Threshold / Upper Threshold**: Two drop-down menus appear for *Input (VDC)* ports. Set the threshold according to the hardware device you are connecting and then configure a *Monitor* (see page 65).

- **IP Address, Port, Password and Protocol Type**: Four options appear for LAN ports. These settings are for operating data projectors with the PJLink protocol. PJLink allows control of projectors over a network. Enter the IP address, port and password of the projector.



Create Viewer & Design

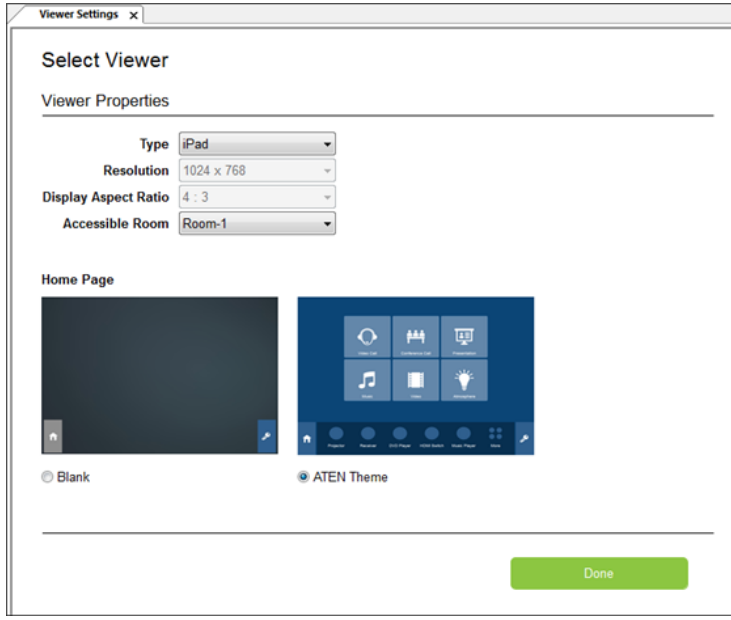
The *Create Viewer & Design* tab is for creating a **Viewer** (user interface) that controls the hardware devices from an iPad. Create a viewer for each room that has hardware devices connected to a VK2100.



Select Viewer	The Select Viewer page appears first so you can set the Viewer Properties. The viewer properties must be set before you configure the viewer pages. When you are finished, click **Done** to begin designing the viewer pages.
Left Sidebar	The left sidebar lists each viewer and its pages.The sidebar allows you to add viewers and pages. These options become available after clicking Done on the Select Viewer page (see *Left Sidebar*, page 46).
Right Sidebar	The right sidebar provides the Graphic Library (page 59) and Advanced Editor (page 61) options.
Viewer Properties	The Viewer Properties section allows you to set the basic settings for each viewer (as described on the next page).

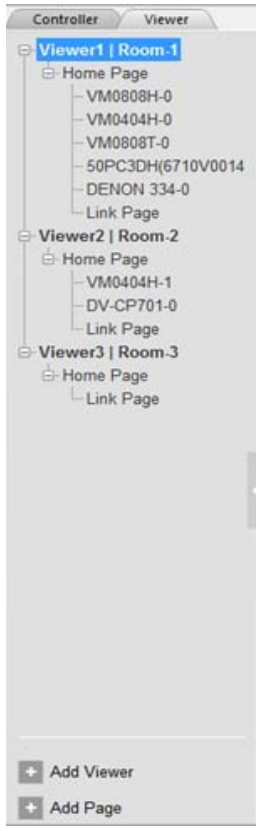
Select Viewer

The *Select Viewer* page sets the basic properties for each viewer that will control hardware devices from the iPad. Select the settings, then click **Done** to continue.



Viewer Properties	Use the drop-down menus to set the iPad *Type*. The *Resolution* and *Display Aspect Ratio* are provided for informational purposes.
Accessible Room	Set the room that the viewer controls. The viewer will only upload to the controller associated with the same room name.
Home Page	Sets the layout for the Viewer's home page: ◆ **Blank**: Creates a custom home page that you design from scratch. ◆ **ATEN Theme**: Creates a home page with graphics. This theme provides a template that can be customized into your own home page design.
Done	Click Done to edit the Viewer pages.

Left Sidebar



Viewer

The *Left Sidebar* provides a tree view of the **Viewers** and **Pages**. Clicking a viewer opens the *Page Overview* which is a layout of the viewer's pages.

Right click a viewer to **Delete, Rename** or **Edit** the viewer.

Use **Add Viewer** at the bottom of the sidebar to create a new viewer.

Page

Each viewer lists the **Home Page**, **Link Page** and a **Device Page** for each device added from the Device Library.

Clicking a Home Page, Link Page or Device Page on the sidebar opens a new tab where the page can be edited.

Right click a page to **Delete** or **Rename** the page. The Home Page cannot be deleted.

Use **Add Page** at the bottom of the sidebar to add a page to the viewer.

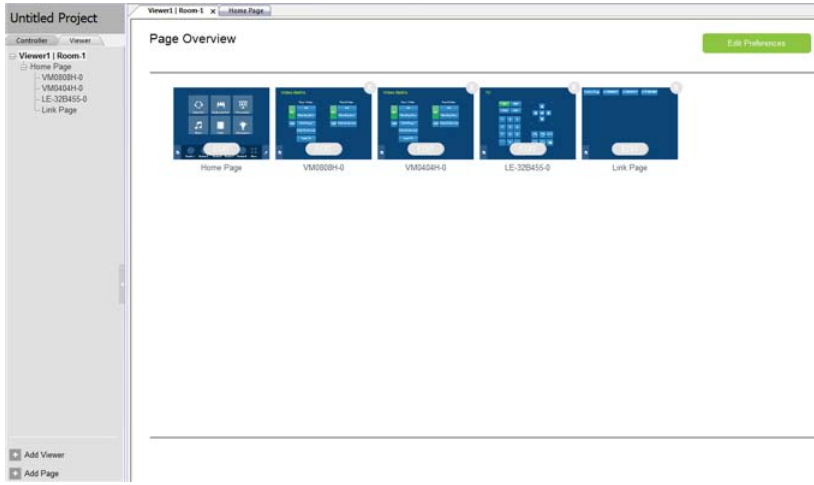
Right Sidebar

The *Right Sidebar* provides the **Graphic Library** and **Advanced Editor** options. The Graphic Library provides ready-to-use objects for designing viewer pages. The Advanced Editor provides **Macro**, **Monitor** and **Flag** options to configure the function of buttons. The Graphic Library is discussed on page 59 and the Advanced Editor on page 61.

Page Overview

Page Overview shows each viewer page that controls the hardware devices from an iPad. Hardware devices added from the *ATEN Library* will have control pages automatically created for them. Custom hardware that is created with the **Database Generator** will appear with default buttons generated according to the *Category* selected (page 77). Actions added manually to the Functions List need to have a button added manually.

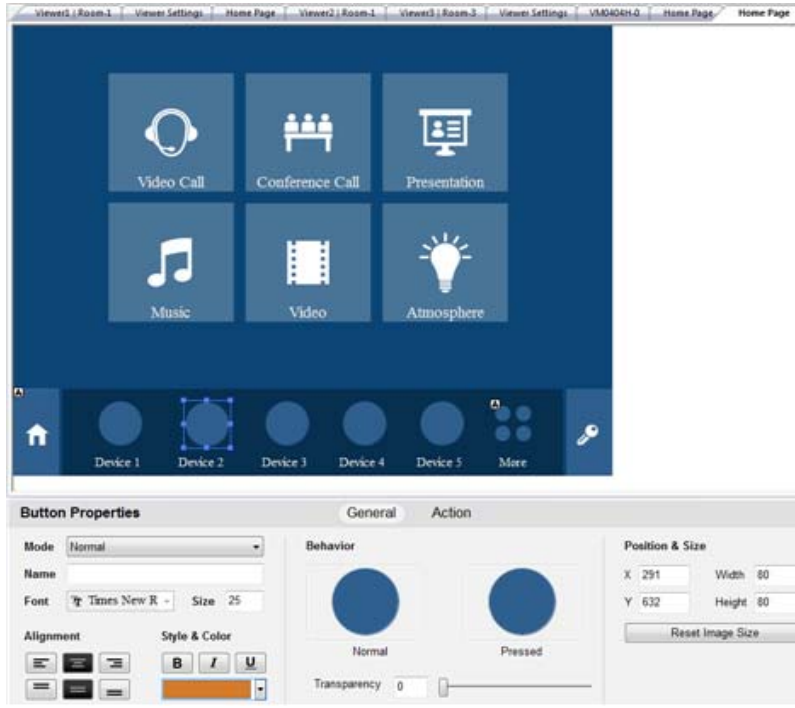
Edit and add pages to design the layout for use on an iPad. Pages can be fully customized and designed with macros and buttons from different hardware devices and with any object, background, size, shape and color of your choice.



Page Overview	Shows the **Home Page**, **Link Page** and a **Control Page** for each hardware device added from the Device Library.
Edit	Click to customize a viewer page (see page 53).
X	Click the **X** located at the top right corner of the viewer page to delete it.
Add Page	Click to add a new page to the viewer.
Add Viewer	Click Add Viewer to create a new viewer.
Sidebar	Click a sidebar item to edit the viewer properties or a viewer page.
Edit Preferences	Click to return to the Select viewer page.

Edit

Use **Edit** to customize the layout and design of a page. You can add custom buttons, labels, images, scroll view windows and backgrounds to the page. Buttons can be made into a **Link**, **Macro** or **Function**. Use the *Graphic Library* on the sidebar to add objects and *Advanced Editor* to configure advanced button actions. Objects can be layered, images can be imported and labels can be applied anywhere.

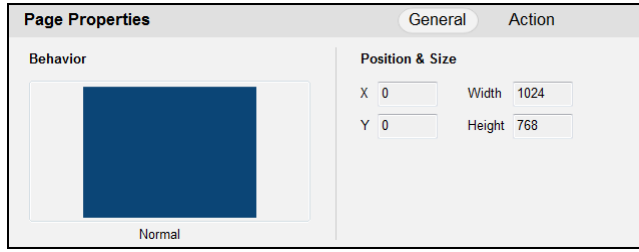


- Selecting an object opens the **Properties** options at the bottom of the page.
- Right click on the page to add a **Button**, **Label**, **Image** or **Scroll View**.
- Drag and drop objects anywhere on the page.
- Right click on an object to select options.
- Click the mouse wheel to zoom the page in or out.
- Double click on the page or an object to open the *Graphic Library*.
- Use the *Object* menu bar options to **Group**, **Order** or **Align** objects.
- Use *View* menu bar options to select **Show Grid** and **Align to Grid** to set objects in perfect alignment.

Properties

There are four types of properties that appear for different objects:

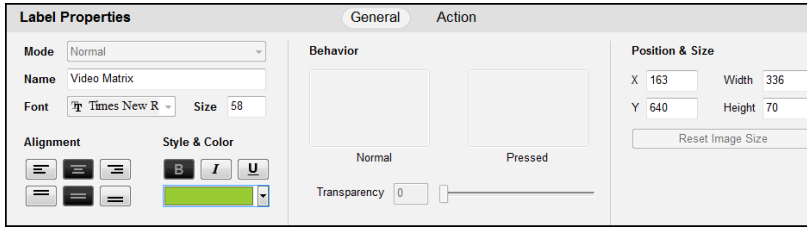
■ Page Properties



The *Page* properties provides options to change the background of the page.

- **Behavior** – click the box to import an image (*.png,*.jpg*.jpeg*.bmp) to use as the background for the page.
- **Position and Size –** displays the *Width* and *Length* of the page according to the *Resolution* set in the Viewer Properties.

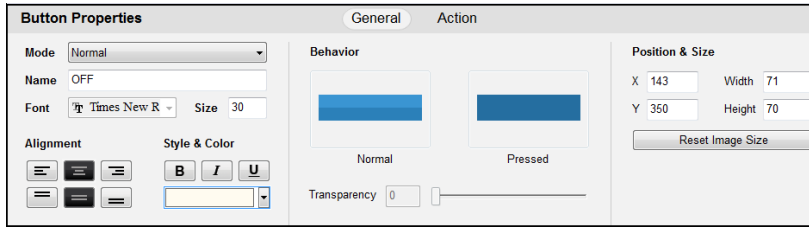
■ Label Properties



The *Label* properties provide options to change the text and formatting of a label.

- **Name** – type the text you want to use for the label.
- **Font** – use the drop-down menu to select the font type.
- **Size** – enter a number (1-200) to set the size of the text.
- **Alignment** – aligns the text Right, Center or Left; and Top, Middle or Bottom within the label box.
- **Style & Color** – formats text to *Bold*, *Italic* or *Underline* for the label. Use the drop-down menu to change the color of the text.
- **Position and Size –** *X* and *Y* position the label at the coordinates entered. *Width* and *Height* set the size of the label.

■ Button Properties



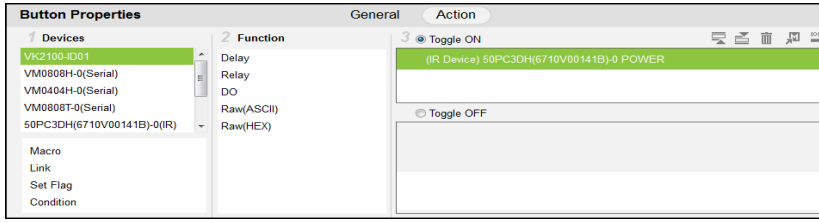
The *Button* properties provide options under **General** and **Action** to configure the look and function of a button. A button can control a device, link to another page or run a macro.

General

- **Mode** – use the drop-down menu to select the button type: *Normal* for a button that uses one function or *Toggle* for a button that switches between two functions (see *Action* settings, page 57).
- **Name** – (optional) type the text you want to use for the button.
- **Font** – use the drop-down menu to select the font type.
- **Size** – enter a number (1-200) to set the size of the text for the button.
- **Alignment** – aligns the text Right, Center or Left; and Top, Middle or Bottom within the button box.
- **Style & Color** – formats text to *Bold*, *Italic* or *Underline* for the button. Use the drop-down menu to change the color of the text.
- **Behavior** – click *Normal* to import an image to use as the button's standard background and click *Pressed* to import an image to use when the button is pressed.
- **Transparency** – enter a number (0-100) or use the slider-bar to set the transparency of the button.
- **Position and Size –** *X* and *Y* position the button at the coordinates entered. *Width* and *Height* set the size of the button box.
- **Reset Image Size** – resets the button size.

(Continues on next page.)

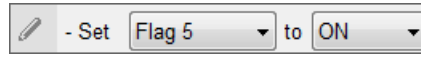
Action



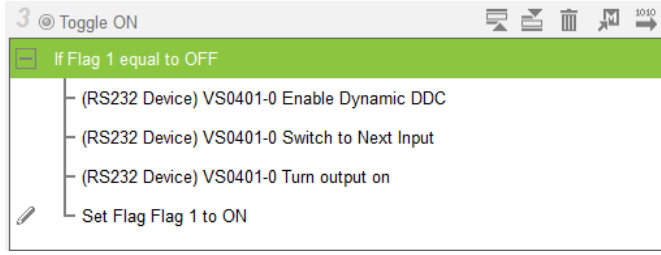
The *Action* section allows you to configure what the button does when pressed. Configure buttons for **Device** commands (On, Off, Play, Stop, etc.), as a **macro** with multiple commands sent to one or more devices, or as a **Link** to other viewer pages. Use **Set Flag** to change Flag values and **Condition** to include Flag parameters for when device settings are changed (See *Flag*, page 69, for details).

Select **Device**, **Macro**, **Link**, **Set Flag** or **Condition** then add the **Function**(s) to the command list.

- **Devices** – select a device to add an action from the Function list.
- **Function** – lists the actions to add to the command list when you select a device. Double click or drag & drop actions to add them to the command list. Add single or multiple actions. Associate actions to Condition *Flags* by dragging and dropping actions into a tree view listed below the Condition – the action only initiates if the condition is true: "If **Flag 1** equals **Value**". Associate a *Set Flag* under Conditions to change the Flag's value to match the changed setting: "Set **Flag 1** to **Value**".
- **Macro** – select to add a macro from the Function list. To create a macro, add multiple actions to the command list then click **Save as Macro** (or use the *Advanced Editor*).
- **Link** – select to create a link then add the page link from the Function list. Click a link in the command list to change it.
- **Set Flag** – select to add a Flag from the Function list. These change a Flag's value according to the setting. Use Set Flags to change the flag value when a device setting changes so that it indicates the new setting. Associate *Set Flags* to *Conditions* so that the flag value changes with the action associated under the same Condition. Add a Flag then double click it to use the drop-down menus to set the **Flag** and **Value**.



- **Condition** – select to add a *Flag* condition from the Function list. The condition you set "If **Flag** equals **Value**" initiates the associated actions if the condition is true. Add a *Set Flag* to change the Flag value with the action. To associate an action, drag & drop it under the *Condition* so that it creates a tree view list:


3
Toggle ON
If Flag 1 equal to OFF
(RS232 Device) VS0401-0 Enable Dynamic DDC
(RS232 Device) VS0401-0 Switch to Next Input
(RS232 Device) VS0401-0 Turn output on
Set Flag Flag 1 to ON

  In the example above, **If Flag 1 equals Off,** the following actions will initiate:

  - Enable Dynamic DDC
  - Switch to Next Input
  - Turn output on
  - Set Flag 1 to ON

  The actions change the device settings and the Set Flag changes the Flag value to ON. Now only a Flag condition of [If **Flag 1** equals **ON**] can initiate an action.

- **Toggle ON** – lists the first action(s) to take when the button is pressed.
- **Toggle OFF** – lists the next action(s) to take after the button is pressed once. Toggle OFF is available when the button Mode is set to *Toggle*.

  Move up – moves a command in the list up.

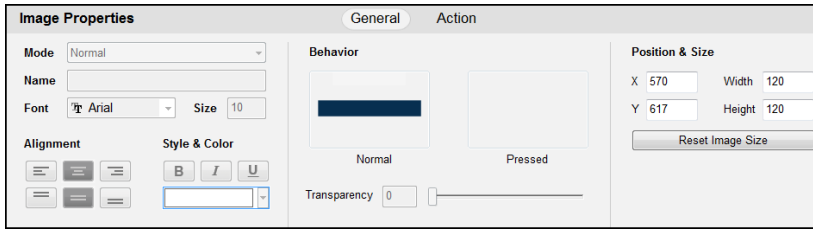
  Move down – moves a command in the list down.

  Delete – deletes a command.

  Save as Macro – saves the commands in the list as a macro.

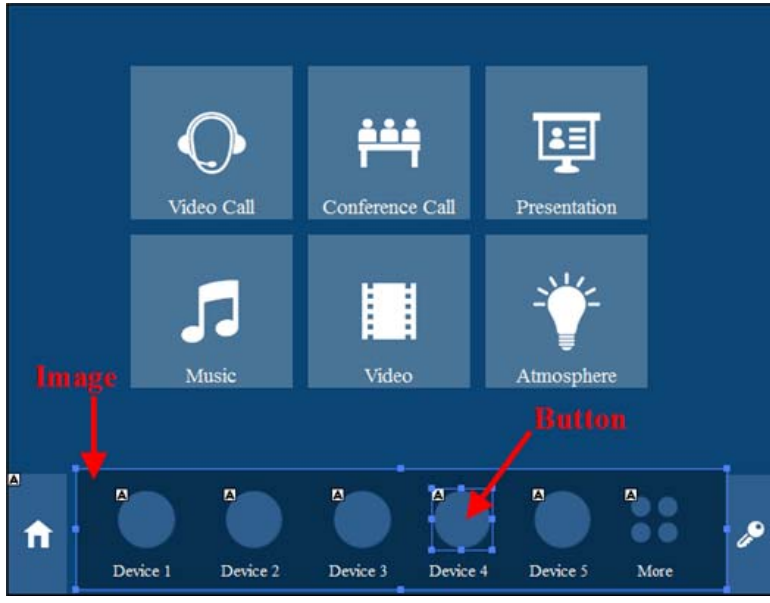
  Command Test – connects to a controller and tests the commands.

■ Image Properties



The *Image* properties provide options under **General** to change and import images to the page. Images can be layered with other objects so that they can be placed as a background or highlight for buttons (see below). You can **Group**, **Order** and **Align** images from the *Object* menu.

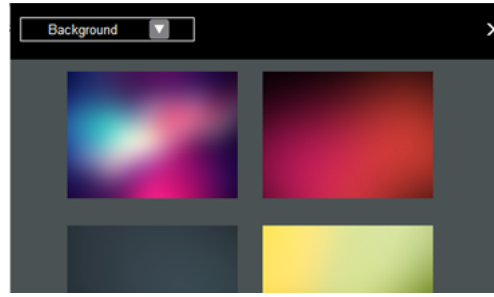
- **Behavior –** shows the image selected. Click inside the box to import an image (*.png,*.jpg,*.jpeg,*.bmp) to the page.
- **Transparency** – enter a number (0-100) or use the slider-bar to set the transparency of the image selected.
- **Position and Size –** *X* and *Y* position the image at the coordinates entered. *Width* and *Height* set the size of the image.
- **Reset Image Size** – resets the image size.



Graphic Library

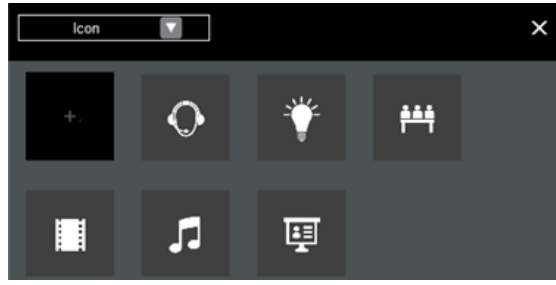
The *Graphic Library* on the sidebar provides ready-to-use objects for backgrounds, buttons, icons and device interfaces. Device Interface provides entire page layouts as templates for different types of devices and rooms. Double click or drag and drop to add items. Images can be imported for icons and buttons in various formats (*.png,*.jpg,*.jpeg,*.bmp).

Background



Button

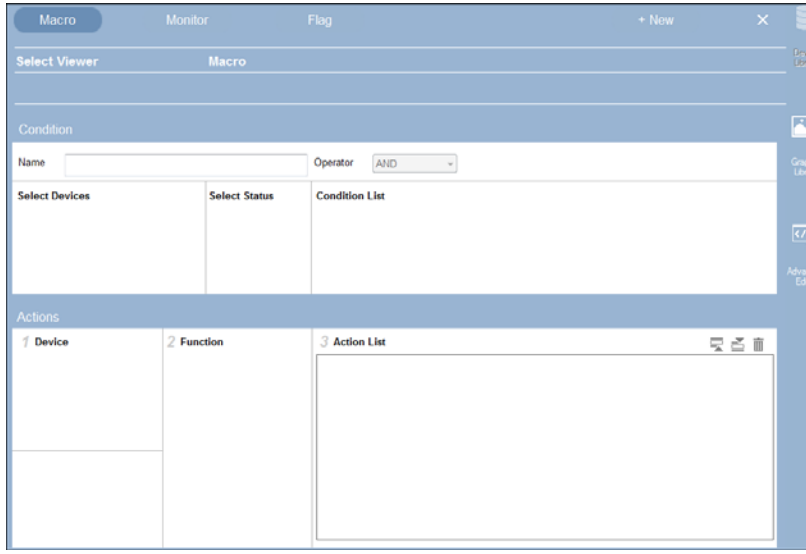
Icon



Device Interface

Advanced Editor

The *Advanced Editor* provides settings to create a **Macro** for buttons, a **Monitor** for events, or a **Flag** to track settings. The table below gives a brief description of each section and the pages that follow provide instructions to create a macro and Monitor.



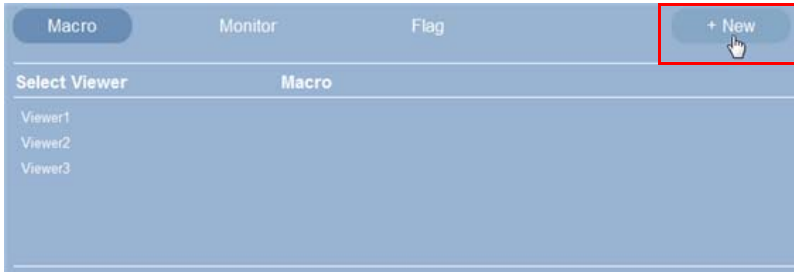
Macro	Macros initiate a sequence of actions on one or more hardware devices.
Monitor	Monitors allow you to set Conditions for Digital Input (dry contact) and Digital Input (VDC) signals and Flags on a port that will initiate an Action.
Flag	Flags are created to include parameters when settings are changed to indicate the current status.
+ New	Opens a pop-up menu to create a Macro, Monitor or Flag.
Select Viewer	Lists the viewers available to create a Macro or Monitor setting for. Click on a viewer to see the list of Preset macros or Preset Monitors that have been created.
Preset Macro / Monitor	When you click a viewer under *Select Viewer* – the macros or Monitors created for it will be listed here. Click on a Preset Macro or Monitor to configure the settings.
Conditions	This section is for Monitor settings only and is used to set the conditions for signals sent from Digital Input (dry contact), Digital Input (VDC) devices and Flags.
Action	This section is used to add actions to the Macro or Monitor. Actions added to the Action list will initiate when a custom button (Macro) is pressed or port signals (monitor) meet a set condition.

Macro

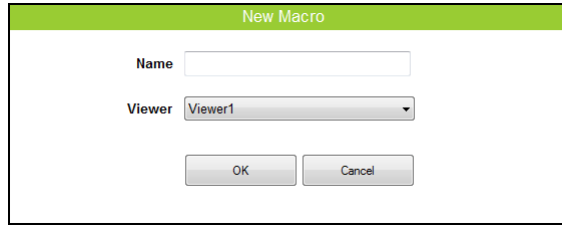
Macros allow you to create a button that will initiate a sequence of actions across the same or different hardware devices. This saves time by allowing multiple devices to initiate actions all at once, from one button. For example, you can create a macro to start a video presentation by adding functions to: dim lights, power on source, power on display, lower screen and play source. You can also add time delays between actions in a macro.

To create a macro:

1. Select **Macro** and click **+ New**.

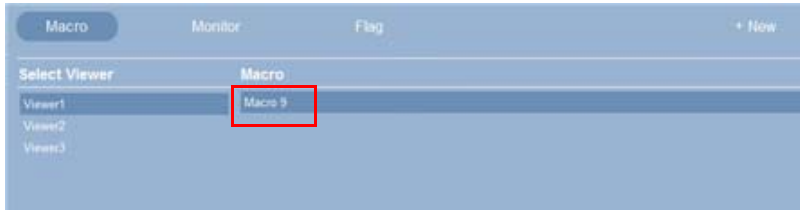


2. The *New Macro* pop-up menu appears:

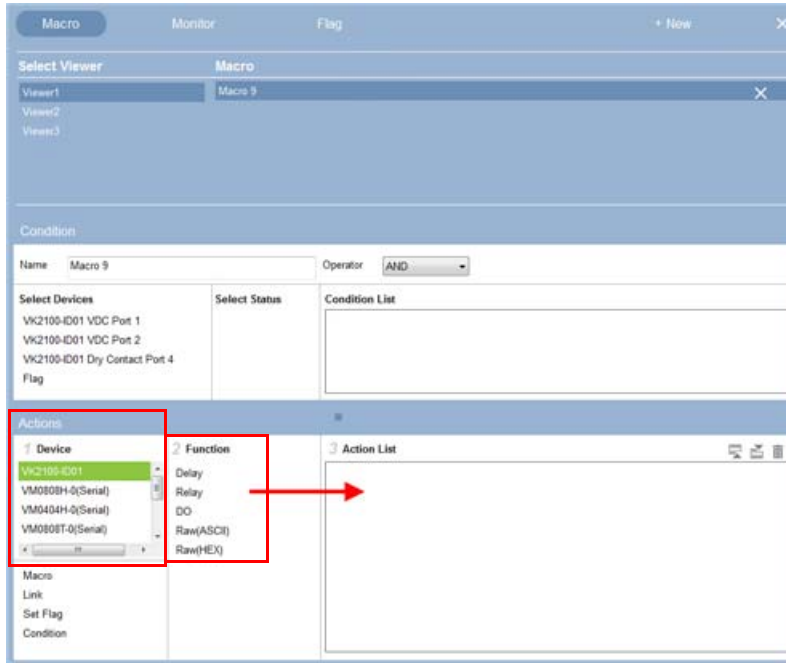


   Enter a **Name** and select a **Viewer** from the drop-down menu, then click **OK**.

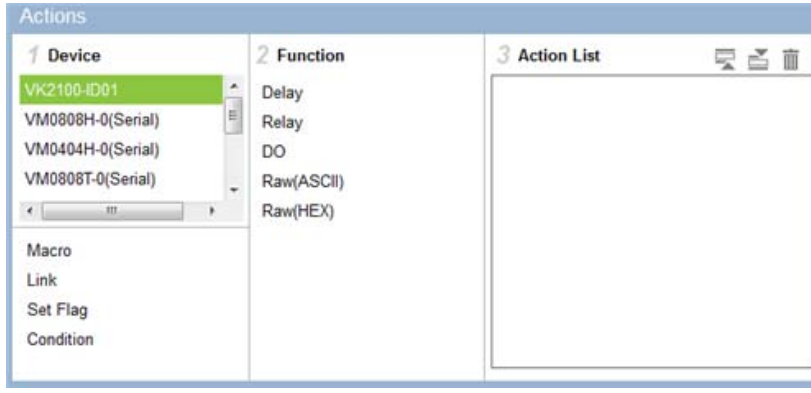
3. Select the viewer and click the macro name under **Macro**:



4. Go to the *Actions* section at the bottom of the page to select hardware under **Device** and add the **Function** to the **Action List**:



5. First select the hardware device; or a Macro, Link, Set Flag or Condition, under **Devices**.



Note: For more information on device Functions see *Action*, page 56.

6. From the **Function** list double click an action to add it to **Action List**.

   If you select a VK2100 you can add and then configure these actions by double clicking on them in the *Action List*:

   Delay – adds a delay in seconds. Enter a number 0.1-180 seconds.

   Relay – adds an Open, Close, Toggle or Pulse action on the selected controller and Relay port.

   D/O – adds an Open, Close, Toggle or Pulse action on the selected controller and Digital Output port.

   RAW(ASCII) – adds a serial command string that is entered for the port selected in ASCII mode.

   RAW(HEX) – adds a serial command string that is entered for the port selected in HEX mode.

7. After adding all the functions to the *Action List*, the macro is complete.

8. In *Create Viewer & Design* – create a button and add a macro to the *Button Properties* from the **Action** tab by selecting **Macro** under *Devices*, as shown here:

Monitor

A *Monitor* allows you to set conditions on a port for the signals from **Digital Input** (VDC) and **Digital Input** (Dry Contact) devices or Flag – to initiate an action. Digital Input (VDC) hardware devices provide voltage signals between 1 and 24. Digital Input (Dry Contact) are hardware devices with open and closed circuit signals. These signals provide indicators from sensors or switches of an event. An event can be the temperature, power, dry contact, sensor or switching status from a device.

Create a monitor for a Digital Input port with a **Condition** that specifies an **Action** according to the signal sent from the device.

To create a Monitor:

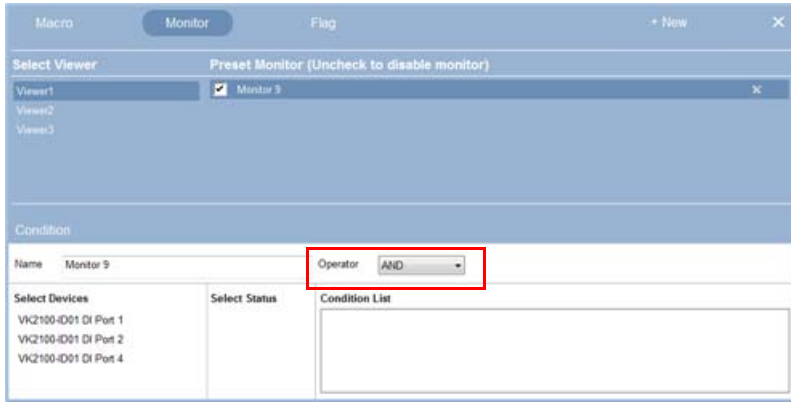
1. Select **Monitor** and click **+ New**.

2. The *New Monitor* menu appears:

Enter a **Name** and select the **Viewer** (associated with the room/ device you are configuring) from the drop-down menu, then click **OK**.

3. Select the *Viewer* under **Select Viewer** and click the *Monitor* under **Preset Monitor**:

4. Under **Condition** use the drop-down menu to select the **Operator**:

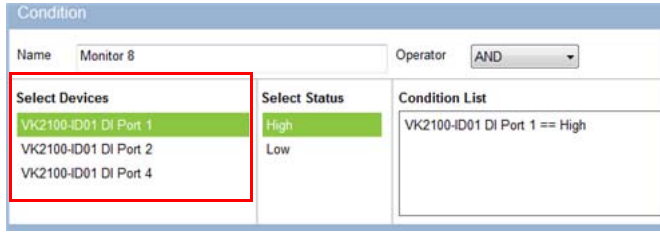


Operator options are only for advanced setups that require multiple events from hardware devices connected to multiple D/I ports. Most devices only require one signal Status added to the *Condition List* to initiate an *Action*. Most installations will not need to use the Operator option, therefore it can be ignored.

AND: Add multiple conditions from different D/I ports – all of which must be met for the Action to initiate.

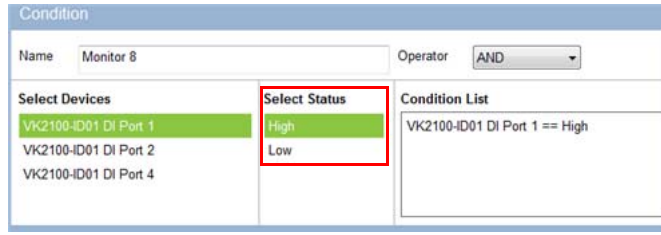
OR: Add multiple conditions from different D/I ports – one of which must be met for the Action to initiate.

5. Under **Select Devices** select the D/I port:



Note: The *Viewer* selected for the monitor must have a Digital Input (dry contract) or Digital Input (VDC) port or a Flag configured for devices to appear in the list.

6. Under **Select Status** add a status to the Condition List:



The High or Low status tells the Monitor to initiate an Action when the device signal is above or below the threshold setting* for the port:

Digital Input (VDC)

- High - states that when the voltage signal is above the **Upper** Threshold to initiate the Action.
- Low - states that when the voltage signal is below the **Lower** Threshold to initiate the Action.

Digital Input (Dry Contact)

According to an open or closed circuit status for the port:

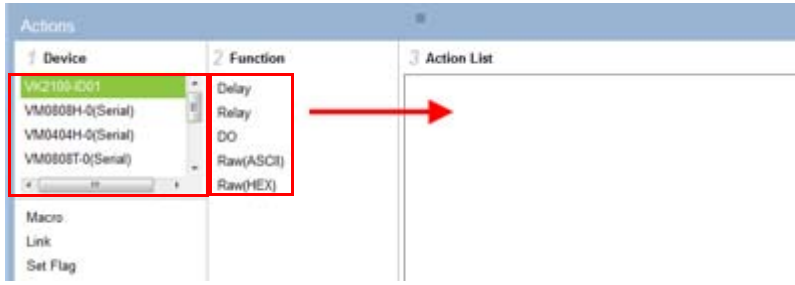
- Open - states that when the circuit is **Open** to initiate the Action.
- Closed - states that when the circuit is **Closed** to initiate the Action.

Note: To configure the Upper and Lower threshold for the Digital Input port see *Properties*, **page 48**.

---

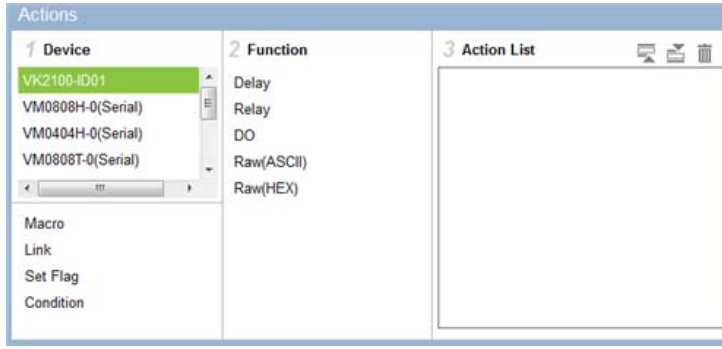
7. (Optional) Use the Operator option to add additional High or Low conditions (see step 4, page 66).

8. Go to the *Actions* section at the bottom of the page to select the hardware **Device** and add the **Function** to the **Action List:**



Note: For more information on device Functions see *Action*, page 56.

9. First select the hardware under **Devices**.



If you select a VK2100 you can add special actions and double click on them in the *Organized Action* box to configure:

Delay – adds a delay in seconds. Enter a number 0.1-180 seconds.

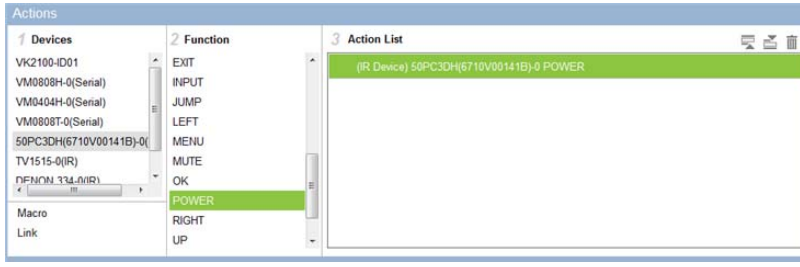
Relay – adds an Open, Close, Toggle or Pulse action on the selected controller and Relay port.

D/O – adds an Open, Close, Toggle or Pulse action on the selected controller and Digital Output port.

RAW(ASCII) – adds a serial command string that is entered for the port selected in ASCII mode.

RAW(HEX) – adds a serial command string that is entered for the port selected in HEX mode.

10. From the **Function** list double click an action to add it to the **Action List**.



This is the **Action** that initiates when the **Condition** is met.

11. You can also add a **Macro**, **Link**, **Set Flag** or **Condition**.

12. After adding all the functions to the *Action List*, the monitor is complete.

Flag

Flags are created for control buttons to include parameters for when settings are changed or requests are made to change settings on a device. Flags indicate what the status is and what action to take according to the value. Flags are added as actions to *Button Properties* as a **Condition** or **Set Flag** value.

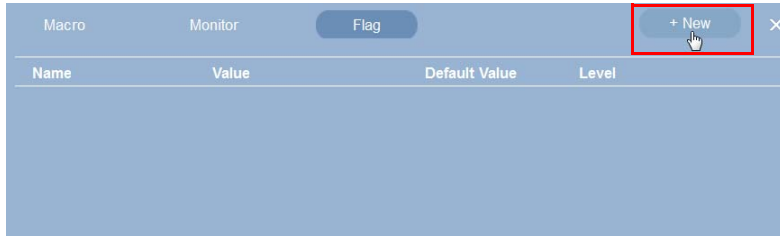
Conditions tell a button to initiate associated actions if the flag value is true: "If **Flag** equals **Value**" initiate the action. Actions are associated with a condition so that they only initiate if the flag value is correct. That way an ON command is only sent to a device if the current flag value is OFF.

Set Flag changes the flag value when a device setting has changed. So that if a device is OFF and the action turns the device ON, adding a "Set Flag 1 to ON" will change the flag value to ON. Now the flag's value matches the device status so that actions associated with flag Conditions will initiate accordingly.

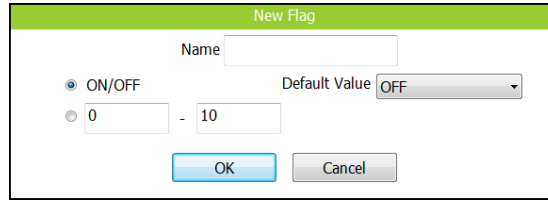
Create flags for a device and add them as a *Condition* and *Set Flag* value in the *Action – Button Properties* (see *Action*, page 56).

To create a Flag:

1. Select **Flag** and click **+ New**.



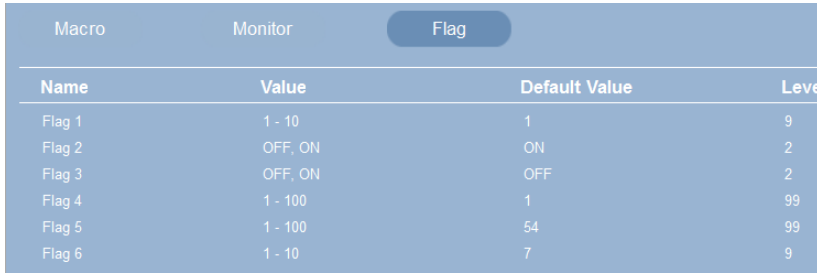
2. The *New Flag* menu appears:



Enter a **Name** and use a radio button to set the flag value:

- Select **On/Off** and use the drop-down menu to select the *Default Value*.
- Enter a range (1-100) for the values in the two boxes and use the drop-down menu to select the *Default Value*.

3. Click **OK** to create more flags or **Cancel** when your finished. The flags will appear in the list below.



Name – Lists the Flag names which have been created.

Value – Lists the flag's values or range of values.

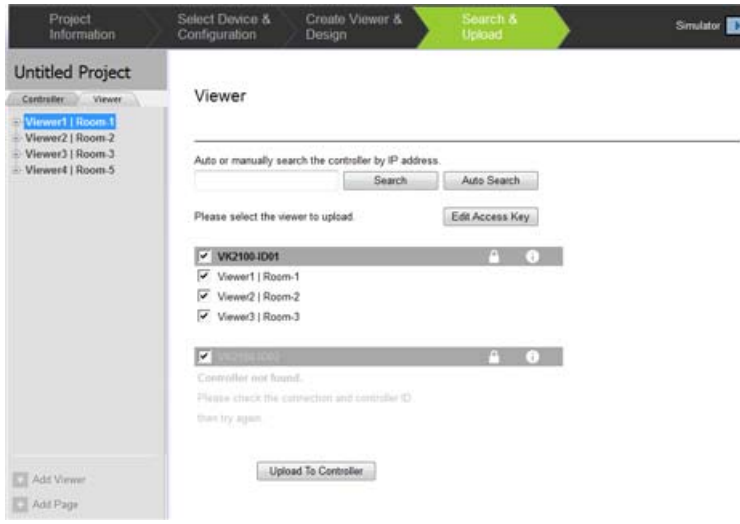
Default Value – Lists the flag's default value.

Level – Lists the number of values available for the flag.

4. Select **Condition** or **Set Flag** to add flags as Actions in the Button Properties of the device's viewer page. (see *Action*, page 56).

Search & Upload

The *Search & Upload* page lets you search for **Controllers** and upload the **Viewers**. Viewers created for each Controller will be listed below the Controller. The *Accessible Room* selected for a viewer determines which Controller it uploads to – by sharing the same room number.



If Controllers can not be found check the Controller ID Switch on the VK2100 – it should match the ID # of the Controller (VK2100-ID**01**) in the ATEN Configurator software.

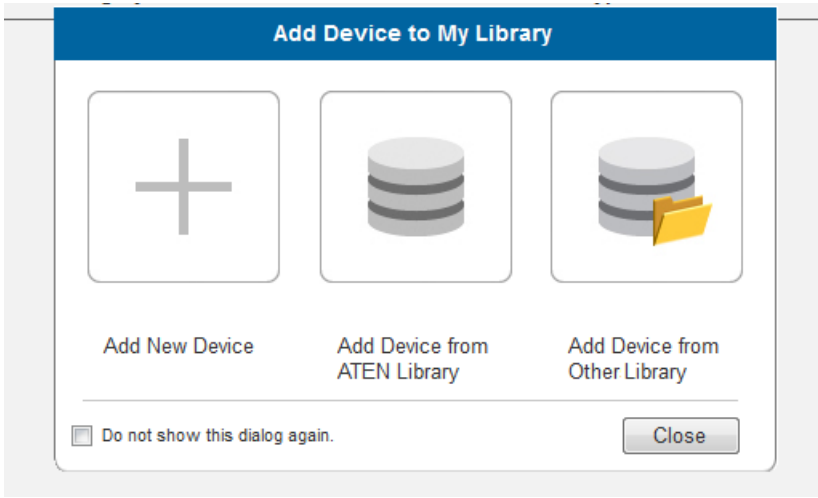
Search	Enter the IP address and click **Search** to locate a Controller.
Auto Search	Click to locate Controllers without specifying an IP address.This option only searches for controllers on the same local area network. For controllers across a network device such as a router or switch you must specify the IP address.
Edit Access Key	Changes the password required to upload and download viewers to the VK2100.
	Click to enable/disable the need for an Access Key to upload and download viewers from the controller.

	Click to view information about the Controller: ◆ IP Address: Displays the VK2100's IP address. ◆ MAC Address: Displays the VK2100's MAC address. ◆ License: Displays the number of licenses available and being used. ◆ Select License: Allows you to load a new licenses file. ◆ Reset License: Resets the licenses being used from an iPad to the VK2100. ◆ Firmware Version: Displays the firmware version of the VK2100. ◆ Select Firmware: Allows you to load a firmware image file to upgrade the VK2100's firmware. ◆ Capacity: Displays the amount of space available on the VK2100 to upload viewers. ◆ Existing Viewers: Lists the viewers currently stored on the VK2100. ◆ Remove Viewer: Removes the viewer stored on the VK2100.
Upload to Controller	When Controllers are found select the Controllers and viewers to upload and then click **Upload to Controller**.

Chapter 6
ATEN Database Generator

Overview

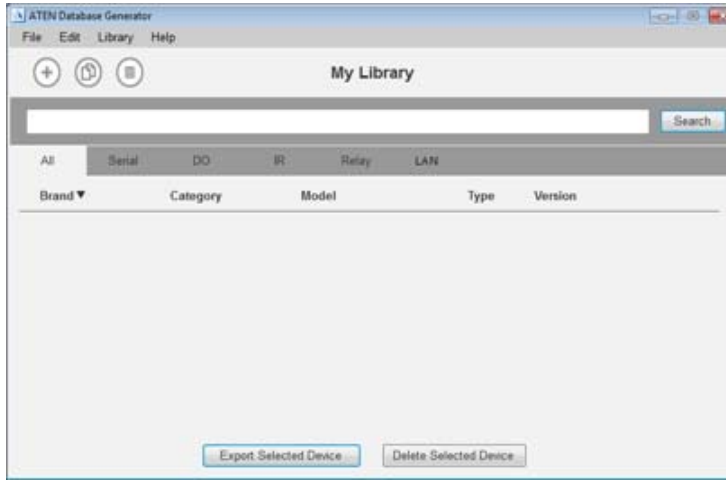
The *ATEN Database Generator* lets you add, edit and manage hardware devices for **My Device Library**. To open the Database Generator, from the menu bar in the ATEN Configurator software, select Tools → *Database Generator*. The first time the application is opened the dialog window appears with four options:


Add Device to My Library
Add New Device
Add Device from ATEN Library
Add Device from Other Library
Do not show this dialog again.
Close

Add New Device	Configure a custom hardware device to add to My Library.
Add Device from ATEN Library	Add devices from the ATEN Device Library to My Library.
Add Device from Others Library	Add devices from a database file (*.vkd) to My Library.
Check Box	Click Do not show this dialog again to prevent the dialog from appearing when the Database Generator is opened. Use the Preferences menu option to bring the dialog window back.
Close	Click the **Close** button to exit the dialog window.

My Library

My Library lists the hardware devices that have been create, added and edited in the Database Generator. My Library allows you to add a new device and edit devices from the ATEN Library (page 81) which can then be selected from the **Device Library** (page 47) for use.



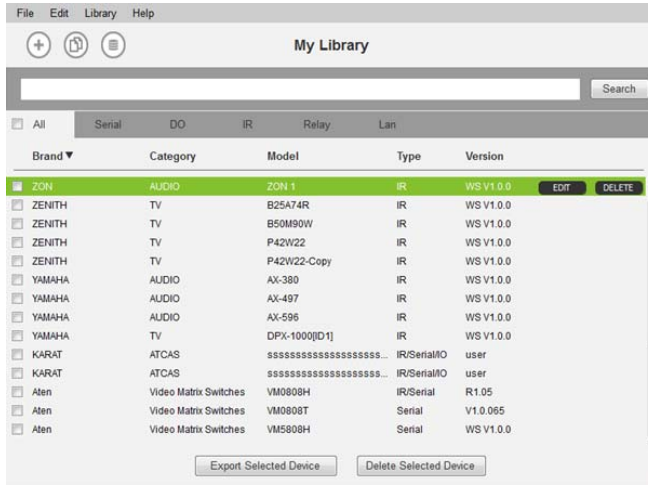
File	The File menu provides seven options: ◆ **Add New Device:** Configure a custom hardware device to add to Device Library. ◆ **Add Device from ATEN Library**: Add devices from the ATEN Device Library to My Library. ◆ **Add Device from Others Library**: Add devices from a database file (*.vkd) to My Library. ◆ **Export My Library**: Saves My Library as a database file (*.vkd) that can be imported later. ◆ **Export Selected Device**: Saves the selected device(s) as a database file (*.vkd) that can be imported later. ◆ **Controller Connection**: Searches for a controller to test the connection or run the learning mode for the IR port. ◆ **Quit**: Exits the program.

Edit	The Edit menu provides three options:
	◆ **Delete:** Deletes the selected devices from the database.
	◆ **Duplicate**: Makes a copy of the selected device(s) and adds them to the library with the extension “-Copy”
	◆ **Preferences**: Provides options to:
	  ◆ Show Add Device dialog on startup
	  ◆ Set the Language
	  ◆ Show IR Learning tips
	  ◆ Set the IR Learning Timeout

Library	Provides a list of the Libraries that you can open to select devices from to add and edit to My Library. The libraries that are listed here appear when you select a database using Add Device from Others Library.
Help	The Help menu provides two options: ◆ **Update ATEN Library**: Allows you to browse for a database file (*.vdk) to import devices into the ATEN library. ◆ **About**: Provides support and software version information.

Managing My Library

When devices are added to My Library they appear listed in the main window. New devices can be added by creating a new device, copying an existing device or by selecting a device from the ATEN Library. Use the check boxes to select individual devices or **All** to select the entire list.



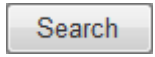
Click to add a new custom device to the database.

Select a device and click this icon to create a duplicate.

Click to add and edit a device from the ATEN Library.

Select a device and click **Edit** to change the settings.

Select a device and click **Delete** to remove a device.

 Key in word strings then click **Search** to find a device.

- Click **All**, **RS232**, **DO**, **IR Relay**, or **LAN** to filter the list by type.
- Click **Brand**, **Category**, **Model**, **Type** or **Version** to sort the devices.
- Click **Export Selected Device** to save the selected devices.
- Click **Delete Selected Devices** to remove the selected devices.

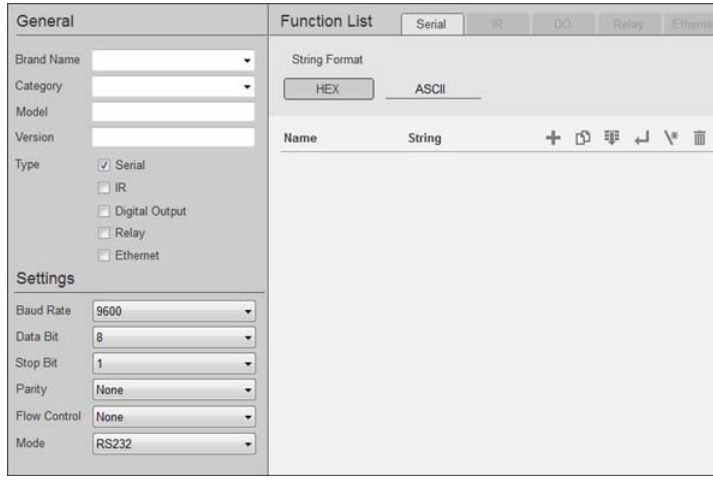
Edit / Add New Device

To edit or add a device to My Library, do the following:

1. From the menu select **File** → **Add New Device**, or select a device from My Library and click **Edit**.
2. Under **General**, use the drop-down menus or type in the Brand Name, Category, Model and Version.

   Note: The *Category* determines the default buttons are generated when a viewer page is created with the controls for the device.
3. Check the device type:

■ **Serial**



- **Settings –** Use the drop-down menus to set the: *Baud Rate*, *Data Bit*, *Stop Bit*, *Parity*, *Flow Control* and *Mode* settings.
- **Function List** – Use this section to configure the device functions by adding actions to the list. Select the **String Format**: *HEX* or *ASCII*.

  Click to add an Action. Double click **Name** or **String** to edit.

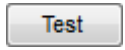
  Click to create a duplicate of the Action.

  Click to add a drop menu into the String.

  Click to add an *Enter* command to the String.

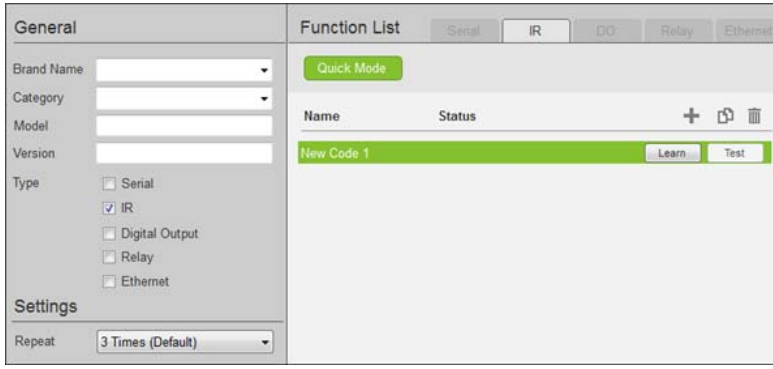
Opens a menu with a list of commands to add to the String.

Click to delete the selected action.



After the string is configured click to test the action. The serial device must be connected to **Serial Port #6** (the very last serial port to right side on the rear of the VK2100) to test the action with a device.

■ IR



- **Settings –** Use the drop-down menu to set the **Repeat** setting (number of times a signal is sent): *1 Time*, *2 Times* or *3 Times (Default)*.
- **Function List** – Use this section to configure the IR remote functions by adding actions to the list and using the learn feature.

  Click to add an Action.

  Click to create a duplicate of the Action

  Click to delete the selected action.

  Click to auto run Learn mode for all the IR actions in the **Function List**. When the Quick Mode window opens click **Start** and follow the instructions on the next page.

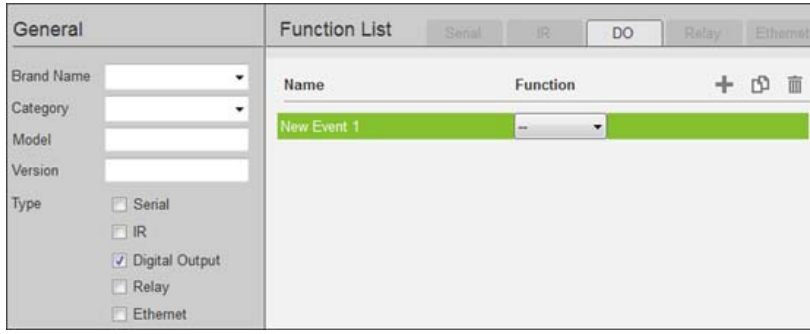
Click **Learn** to start Learning Mode (LED lights green). Point the IR remote at the IR Receiving port and push a button on the remote until the LED starts flashing green. When the learning is complete, the LED will stop flashing.

Click **Test** to connect to a VK2100 and test the IR action on the device. A pop-up window appears to select the controller, then the test will proceed. Check the hardware device to see that the action responded appropriately. The IR device must be connected to **IR Port #1** (the very first IR port to bottom left side on the rear of the VK2100) to test the action with a device.

The **Status** column reports results of Learn and Test. **Learn OK** indicates learning mode was successful and the IR action was saved.

Double click the **Name** to edit the Action's name.

■ Digital Output



- **Function List** – Use this section to configure the device functions by adding actions to the list.

  Double click the **Name** to edit the Action's name.

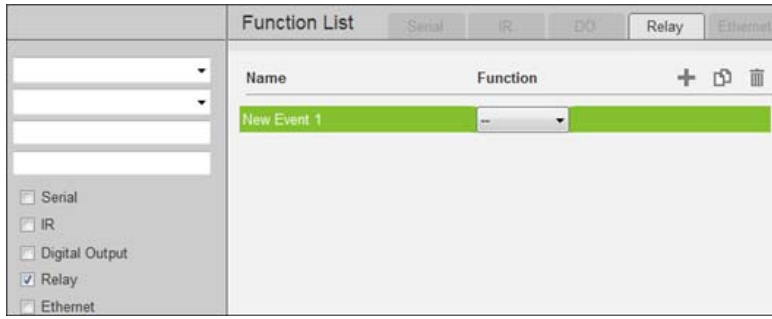
  Click the **Function** drop-down menu to select the type: *Open*, *Close*, and *Toggle*.

  Click to add an Action.

  Click to create a duplicate of the Action

  Click to delete the selected Action.

■ Relay



- **Function List** – Use this section to configure the device functions by adding actions to the list.

  Double click the **Name** to edit the Action's name.

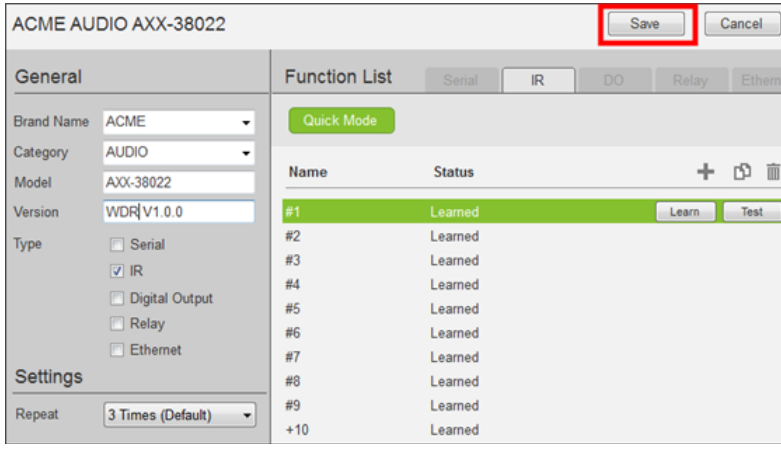
  Click the **Function** drop-down menu to select the type: *Open*, *Close*, and *Toggle*.

  Click to add an Action.

  Click to create a duplicate of the Action

  Click to delete the selected Action.

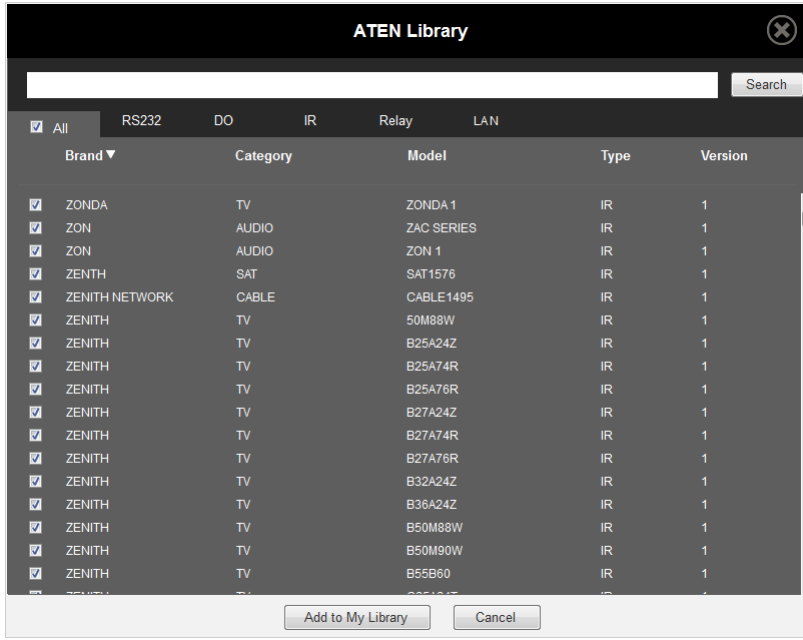
4. Click **Save**.



5. The device will appear in My Library.

ATEN Library

The *ATEN Library* provides a complete list of devices in the ATEN database. You can add any device in the list to My Library. In My Library the device settings can be edited as needed.



- Use the check boxes to select devices to add to My Library. Check **All** to select all devices in the list.
- Key in word strings then click **Search** to find a device.
- Click **All**, **RS232**, **DO**, **IR**, **Relay** or **LAN** to filter the device list by type.
- Click **Brand**, **Category**, **Model**, **Type** or **Version** to sort the devices.
- Click **Add to My Library** to add the selected devices to My Library.
- Click **Cancel** to return to My Library.

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Chapter 7
ATEN Control System App

Overview

The ATEN Control System App is a free app for the iPad which can be downloaded from the Apple app store. The app allows you to download the viewer profiles from a controller which provide the interface for remote control of hardware devices.

Installing the App

To install the ATEN Control System App on the iPad, doing the following:

1. From the iPad, tap the **App Store** icon.

2. In the search box type “aten control”.
3. Tap *ATEN Control System*, then download and install the app.
4. The ATEN Control System icon will appear on the iPad.

5. Press the icon to open the app.

Button Sounds

After you finish installing the app, goto the iPad Settings and find A**TEN Control** to enable or disable the *Button Sound* settings.

ATEN Control System App

When you open the ATEN Control System app for the first time the default *Welcome* screen appears:

Tap **Demo** to try the ATEN Control System app. Tap **Auto Search Controller** to find a controller and download viewer profiles (see *Welcome*, page 88).

Note: The default Welcome screen only appears until a viewer profile is downloaded to the iPad. The default Welcome screen will only reappear if the app is reinstalled, which deletes all viewer profiles.

Demo

The *Demo* page provides a preview of the ATEN Control System app with two sample rooms. Tap either room to view the controls of different hardware devices. Tap **Quit Demo** at the top right corner to exit.

Tap **Room-101** or **Room-102** to select a viewer profile to demo.

Room-101

This demo shows a Conference call interface with controls for a Projector, Screen and Lighting. Tap any of the device icons to open the control page.

Control Pages

The images above show the main page and control pages for the Projector, Screen, and Lights in Room-101.

Room-102

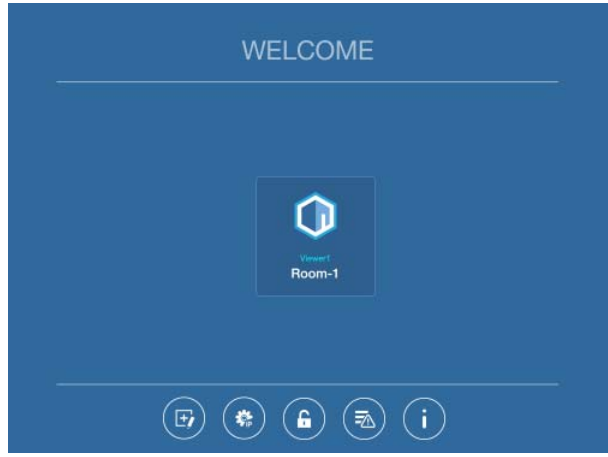
This demo shows buttons for different applications which could be pressed to start a **Video Call**, **Conference Call**, **Presentation**, etc. Tap the icons at the bottom (Light, Player, Projector, etc.) to view control pages for the different devices. Tap the **Key** icon to return to the previous page.

Control Pages

The images above show control pages for the **Light**, **Player** and **Projector** in Room-102. Tap the **Home** icon at the lower left corner to return to the previous page.

Welcome

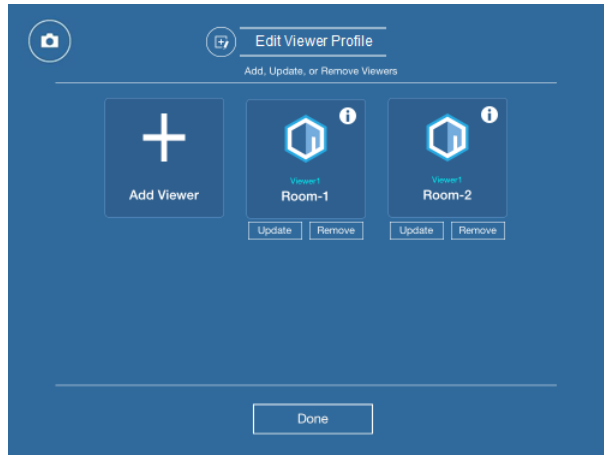
The *Welcome* screen is the main page of the ATEN Control System app. It lists the viewer profiles and provides administrative options. Tap a viewer profile to open the controls for a room (see *Create Viewer & Design*, page 49), or use the administrative options listed below.



	Edit Viewer Profile	This page provides options to add, update and remove viewer profiles. See page 89 for details.
	Manage IP	This page provides options to configure network settings for controllers and LAN devices. See page 90 for details.
	Set Password	This page provides options to set a password for access to the Welcome page when a viewer profile is in use. See page 92 for details.
	Log Report	This page provides an error log to troubleshoot connectivity issues. See page 93 for details.
	App Information	This page provides information about the ATEN Control System's software version. See page 93 for details.

Edit Viewer Profile

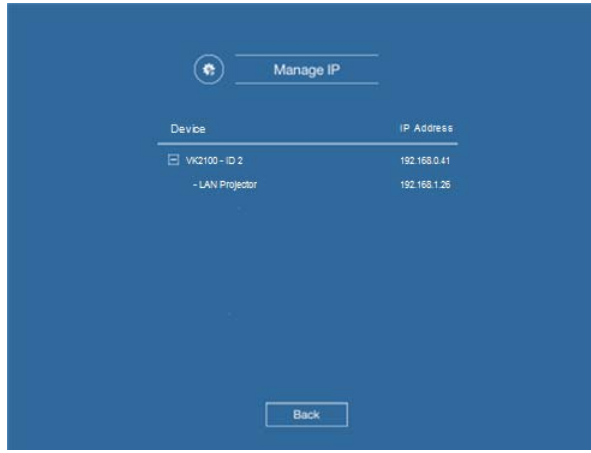
The *Edit Viewer Profile* page allows you to add, update and remove viewer profiles. To download viewer profiles tap **Add Viewer** (see *Set Password*, page 92).



Add Viewer	Tap Add Viewer to download viewer profiles from the *Download Viewer Profile* page. See page 94 for details.
Information Icon	Tap the Information icon to view the **MAC Address**, **IP Address** and **Controller ID** of the controller associated with the viewer profile.
Update	Tap Update to connect to the controller and download an updated version of the viewer profile. After the update the "Downloaded Successfully" prompt will appear
Remove	Tap Remove to delete the viewer profile. A dialog box will appear to confirm deletion of the viewer profile. Tap **Delete** to remove the viewer profile*, or **Cancel** to cancel the deletion. **Note:** Viewer profiles are only deleted from the iPad, thus the viewer profile is still available on the controller.
Camera Icon	Tap the camera icon at the top left corner to change the background for the Welcome page. Select **Default** to use the default background. Tap **Photos** to select an image from the iPad to use as a background.
Done	Tap Done to return to the Welcome page.

Manage IP

The *Manage IP* page allows you to edit network settings for the controllers and LAN devices added in the Configurator software (see *Device Library*, page 47).

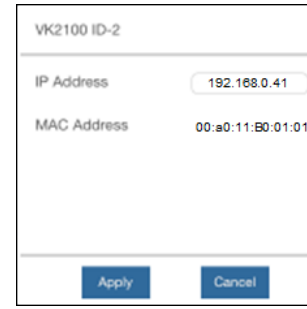


Tap to expand controllers to view connected LAN devices.

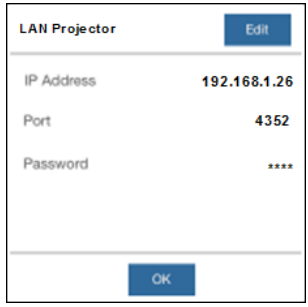
Depending on the LAN device selected, different options are available to configure the network connection, including: IP Address, Port, Username and/or Password.

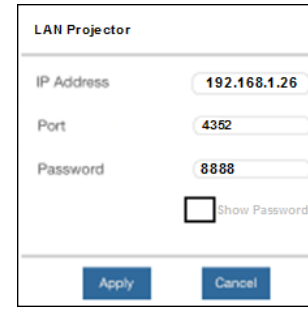
Tap on a device to open the settings page. Use **Edit** to change settings, **Apply** to save, or **OK** to exit.

Controller



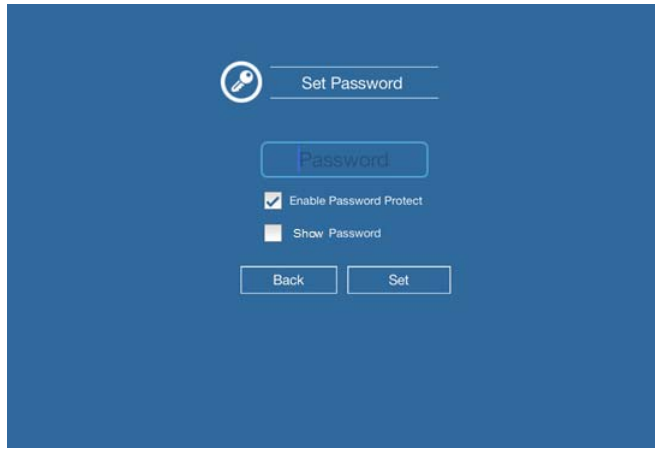
PJlink Projector





Set Password

The *Set Password* page sets a password to access the Welcome page from a viewer profile. This prevents unauthorized users from changing the app settings. Users will be prompted for a password before they exit viewer profiles to access the Welcome page.



Check **Enable Password Protect**, enter a password in the box and tap **Set**. The *Show Password* option appears after you check Enable Password Protect, allowing you to displays the characters typed in for the password. Tap **Back** to exit.

Log Report

The *Log Report* page lists information and errors by the app which can be used to troubleshoot connections issues. Tap and drag the list to scroll through the error log. Tap **Clear** to delete the log files. Tap **Back** to exit.

Log Report
2014-05-23 14:34:03:369 [Error - 0x20110402] Connection failed to respond. ,ERRURL=http://2.2.2.3/cgi/getinfo.cgi,ERRMSG:The network connection was lost..http://2.2.2.3/cgi/getinfo.cgi
2014-05-23 14:34:03:372 [Error - 0x2001000e] The network connection was lost..http://2.2.2.3/cgi/getinfo.cgi
2014-05-23 14:34:03:378 [Error - 0x20110402] Connection failed to respond. ,ERRURL=http://1.1.1.1/cgi/getinfo.cgi,ERRMSG:The network connection was lost..http://1.1.1.1/cgi/getinfo.cgi
2014-05-23 14:34:03:380 [Error - 0x2001000e] The network connection was lost..http://1.1.1.1/cgi/getinfo.cgi
2014-05-23 14:34:50:021 [Error - 0x20110105] Hardware settings on the control box are incorrect. , DID = 1, IP = 192.168.89.6
2014-05-23 14:35:05:619 [Error - 0x20110402] Connection failed to respond. ,ERRURL=http://2.2.2.4/cgi/getinfo.cgi,ERRMSG:The network connection was lost..http://2.2.2.4/cgi/getinfo.cgi
2014-05-23 14:35:05:622 [Error - 0x2001000e] The network connection was lost..http://2.2.2.4/cgi/getinfo.cgi
Back
Clear

App Version

The *App Version* page displays the ATEN Control System's version.

Download Viewer Profile

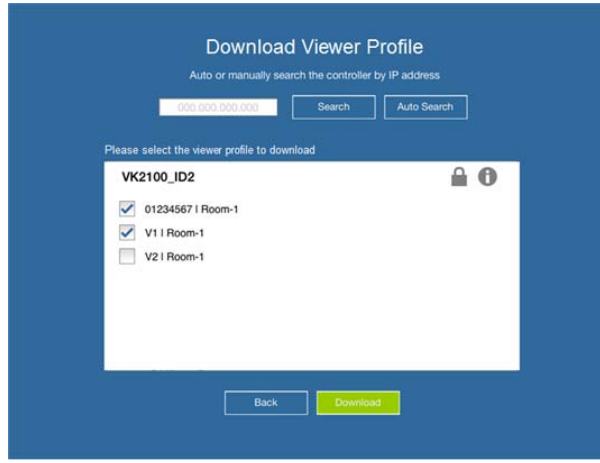
The *Download Viewer Profile* page allows you to search for controllers and download viewer profiles. This page is accessed from *Welcome* → *Edit Viewer Profile* → **Add Viewer**.

Download Viewer Profile
Auto or manually search the controller by IP address
Search
Auto Search
Please select the viewer profile to download
Add Viewer
Use Auto Search or Add IP to add the viewer.
Back

Search Box	Tap to enter the IP address of a controller, then tap Search to find it. When controllers are found on the network they are listed in the Add Viewer box. A **Search History** drop-down menu will appear for previously searched IP addresses.
Search	Enter the IP address of a controller then click Search to find it. The controller must be powered on and connected to the network.
Auto Search	Auto Search allows you to search for controllers without specifying an IP address. The controller must be powered on and connected to the same local network.
Add Viewer	This panel lists the controllers that have been found on the network. Each controller lists viewer profiles that can be downloaded to the iPad. To upload viewer profiles to a controller, see *Search & Upload*, page 71.
Back	Back returns you to the Welcome page.
Download	After you select the viewer profiles you want to download, click Download to start the process.

Downloading Profiles

When controllers are found they appear in the *Add Viewer* panel. Check the boxes of the viewer profiles you would like to download, then tap **Download**.



Add Viewer	The main window lists the controllers that have been found on the network. Under each controller is a list of viewer profiles with a check box. Use the check boxes to select the viewer profiles you want to download, then click **Download**. If the Lock icon appears you will be prompted to enter the access key. After viewer profiles download, the "Downloaded Successfully" prompt appears. Tap **Done** to return to the Welcome page where the viewer profiles will be listed. **Note:** After you download a viewer profile to the iPad, the default Welcome screen no longer appears.
Lock Icon	When the lock icon appears you need to enter the access key before downloading viewer profiles from the controller. To set the access key, see *Edit Access Key*, page 71.
Information Icon	Tap the Information icon to view the **IP Address**, **MAC Address** and **License** information of the controller. The license information provides the total number of licenses and the number in use.

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Appendix

Safety Instructions

General

- Read all of these instructions. Save them for future reference.
- Follow all warnings and instructions marked on the device.
- This product is for indoor use only.
- Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.
- Do not use the device near water.
- Do not place the device near, or over, radiators or heat registers.
- The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- Never spill liquid of any kind on the device.
- Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- The device is designed for IT power distribution systems with 230V phase-to-phase voltage.
- To prevent damage to your installation it is important that all devices are properly grounded.
- The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.
- Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.

- If an extension cord is used with this device make sure that the total of the ampere ratings of all products used on this cord does not exceed the extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or un-interruptible power supply (UPS).
- Position system cables and power cables carefully; Be sure that nothing rests on any cables.
- Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
  - The power cord or plug has become damaged or frayed.
  - Liquid has been spilled into the device.
  - The device has been exposed to rain or water.
  - The device has been dropped, or the cabinet has been damaged.
  - The device exhibits a distinct change in performance, indicating a need for service.
  - The device does not operate normally when the operating instructions are followed.
- Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.

Rack Mounting

- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- Always load the rack from the bottom up, and load the heaviest item in the rack first.
- Make sure that the rack is level and stable before extending a device from the rack.
- Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.
- After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Make sure that all equipment used on the rack – including power strips and other electrical connectors – is properly grounded.
- Ensure that proper airflow is provided to devices in the rack.
- Ensure that the operating ambient temperature of the rack environment does not exceed the maximum ambient temperature specified for the equipment by the manufacturer.
- Do not step on or stand on any device when servicing other devices in a rack.

Technical Support

International

- For online technical support – including troubleshooting, documentation, and software updates: **http://eservice.aten.com**
- For telephone support, see *Telephone Support*, page iv:

North America

Email Support		support@aten-usa.com
Online Technical Support	Troubleshooting Documentation Software Updates	http://www.aten-usa.com/support
Telephone Support		1-888-999-ATEN ext 4988

When you contact us, please have the following information ready beforehand:

- Product model number, serial number, and date of purchase.
- Your computer configuration, including operating system, revision level, expansion cards, and software.
- Any error messages displayed at the time the error occurred.
- The sequence of operations that led up to the error.
- Any other information you feel may be of help.

Specifications

Function		VK2100
Hardware Connections		18
Interface	Serial	4 x Programmable Bi-directional RS-232/422/485 Ports (4 x DB9 Male Connectors, Configurable via Pin Assignments) Baud Rate: 300 to 115200 (default: 9600) Data Bit: 8 (default) or 7 Stop Bit: 1 (default) or 2 Parity: None (default), Even or Odd Flow Control: None (default) RTS/CTS
		2 x Bi-directional RS-232 Ports (2 x 3-Pole Terminal Block Connectors) Baud Rate: 300 to 115200 (default: 9600) Data Bit: 8 (default) or 7 Stop Bit: 1 (default) or 2 Parity: None (default), Even or Odd
	IR/Serial	4 x Programmable IR / Uni-directional RS-232 Ports (2 x 4-Pole Terminal Block Connectors) IR: TTL level (0 to 5 V) Carrier Frequency: 10KHz~455KHz Serial: Uni-directional RS-232 (+ - 5 V) Baud Rate: 300 to 115200 (default: 9600) Data Bit: 8 (default) or 7 Stop Bit: 1 (default) or 2 Parity: None (default), Even or Odd
	I/O	4 x Programmable Digital Input / Output Channels (1 x 5-Pole Terminal Block Connector) Digital Output: 250 mA sink from 12 VDC Digital Input: VDC Mode Input Voltage Range: 0 to 24 VDC Programmable Range: 1 to 24 VDC Dry Contact Mode: Pull-up 2k ohms to + 12 VDC
	Relay	4 x Relay Channels (2 x 4-Pole Terminal Block Connector) Normally Open, Isolated Relays Contact Rating: Max 24 VDC, 2A
	VDC	4 x 12 VDC Output Ports (2 x 4-Pole Terminal Block Connectors) Power Supply: 12 VDC, 2A Max (Shared By 4 Ports)
Connectors	Ethernet	1 x RJ-45 Female, 10/100Base-T
	USB	1 x USB Type A Female (White)
	Power	1 x 3-prong AC power socket

Function			VK2100
Switches	Controller ID		1 x 16-Segment Switch
	Power		1 x Rocker Switch
	Reset		1 x Semi-recessed pushbutton
LEDs	Relay		4 (Green)
	IR / Serial		4 (Green)
	I/O		4 (Green)
	Serial	RX	6 (Green)
		TX	6 (Green)
	Ethernet	Link	1 (Green)
		Act	1 (Green)
	DC Output Overload		1 (Orange)
	IR Learn		1 (Green)
	USB		1 (Green / Orange)
	Power		1 (Green)
IR Receiver			1 x IR Receiver Port
I/P Rating			100-240 VAC, 50-60 Hz
Power Consumption			40 Watt
Environment	Operating Temp.		0–50ºC
	Storage Temp.		-20–60ºC
	Humidity		0–80% RH, Non-condensing
Physical Properties	Housing		Metal
	Weight		2.64 kg
	Dimensions (L x W x H)		43.72 x 16.32 x 4.40 cm

Limited Warranty

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, DISK, OR ITS DOCUMENTATION.

The direct vendor makes no warranty or representation, expressed, implied, or statutory with respect to the contents or use of this documentation, and especially disclaims its quality, performance, merchantability, or fitness for any particular purpose.

The direct vendor also reserves the right to revise or update the device or documentation without obligation to notify any individual or entity of such revisions, or update. For further inquiries, please contact your direct vendor.